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ORIGINAL COMMUNICATIONS.

Farm Produce and Accounts. By HENRY COLMAN. [For the New-York Farmer, and American Gardener's Magazine.]

I have often called the attention of farmers to the keeping of exact accounts of their farming business, believing that it would highly conduce to their advantage and gratification. In general, farmers are, in this matter, grossly negligent; seldom measuring any thing; doing every thing by *guess*; and unable to give any systematic, exact, or regular account, either of the whole of their farming, or of any single operation. This mode of proceeding would be deemed inexcusable in any other important business of life; and such neglect operates to the serious injury of many farmers, from whom better things might be expected; who thus fail of many advantages and improvements, which they might otherwise secure; and who, in this way, often find themselves embarrassed, and sometimes involved in serious losses, from neglecting critically to examine the credit and debit side of their farming concerns.

I have the pleasure, however, of knowing many farmers of distinguished accuracy and correctness in all their proceedings; and in visiting the establishments of such men, the advantages of this exemplary order, neatness, and exactness, for these virtues are usually found in close conjunction, are obvious at first sight. In one case, one of these gentlemen, whom I am not at liberty to name, who is eminent for his good conduct in every thing, and whose farm and house are a beautiful pattern of perfect order, under the direction of great intelligence, sound judgment, exemplary industry and frugality, and the most punctilious exactness, was kind enough to favor me with a detailed account and schedule of his farming operations for a term of ten years; and this, though it was given to me some years since, I shall subjoin as a most instructive example; and to these I shall add other accounts, which I have one way and another procured, persuaded that they cannot fail to be highly useful. I shall give his whole statement, believing that it cannot be amended either by alteration or abridgment.

———, Feb. 18, 1822.

REV. H. COLMAN:

Dear Sir,—I present you with an expose of my farming operations for ten successive years, not because I have any thing extraordinary to show, but because you have requested it. Had I begun solely with a view to profit, I should have managed very differently in some things. My object in choosing this pursuit was to be retired from the perplexities of a commercial life; not for money, or the ease of the body, but of the mind; in these respects I have not been disappointed. Considering the little similarity there is in conducting mercantile and agricultural affairs, it may be expected that many errors and mistakes relating to the profit of farming will at first accompany the progress of the business. Notions adverse to profit are very apt to obtrude; this I know is true in my case. Included in the following calculations is considerable labor for making roads and walks, for ornamental trees, &c., and something in expensive fencing; in fact, all I have expended for these objects: besides, to avoid the necessity of too much personal application, I have omitted the cultivation of vegetables for the market, having always done as little as possible in that department, consistent with being sure of a supply for family use; the surplus makes up the vegetable column.

My farm contains, according to a plan, twenty-nine acres and thirty-four rods, about four acres of which may be considered as taken up in house and barn yards, roads, and unimproveable land, leaving for culture and pasture twenty-five acres; and five acres of salt marsh; also, a wood lot, situated at about three miles distant, which is used for a supply of fuel only; and which affords a sufficient quantity without lessening the quantity of wood; there being fifty-six acres, the growth is considered much more than I consume.

All which I value as follows, viz.:

The twenty-five acres under cultivation, at two hundred dollars per acre, which is to include the land taken up for yards, &c., ...	$5000 00
Five acres of salt marsh, at $75 per acre, . . .	375 00
The wood lot, cost, . .	1122 87
	$6497 87

I have kept an accurate account of the proceeds of the farm, as sold; and have made an estimate of what it has furnished for family use each year, for ten years, from 1811 to 1820, inclusive; each description of produce will be seen in its appropriate column in the following table, from which it will be seen that the average annual income, in cash, for ten years, has been . . . . . $ 869 37

To which I add sundries supplied from the farm for the use of my family, viz.:

Wood, without its preparation for the fire, ...	$ 120 00
Keeping of a horse, . .	100 00
Milk, 365 galls., at 20 cents per gal., ...	73 00
Amount carried forward,	$ 293 00
Amount brought forward,	$ 293 00
Fruit 40, vegetables 61, meats 30, corn 15, cider and vinegar 15, ...	161 00
	$ 454 00
Average annual income,	869 37
	$1323 37

Date.	Vegetables.	Fruit.	Vinegar and Cider.	Meat.	Hay.	Stock.	Milk.	Corn and Barley.	Total.	
1811	132 06	126 76	183 94	14 38					457 14	
1812	181 91	145 48	12 83	81 92	130 18	32 00	17 13	32 05	642 63	
1813	112 93	68 07	93 47	69 67	202 68	30 00	44 97	75	1023 80	
1814	180 38	63 71	254 92	41 21	253 08	112 00	15 00	103 50	1105 59	
1815	162 38	151 56	206 60	61 37	506 69	" "	16 99	" "	1160 87	
1816	165 36	169 73	187 17	60 69	399 69	37 00	12 71	128 50	1071 09	
1817	132 49	240 37	295 31	48 24	329 93	" "	24 75	" "	816 04	
1818	84 34	116 71	246 30	77 99	162 21	30 02	98 47	" "	821 36	
1819	103 85	280 68	131 95	25 84	185 00	" "	94 04	" "	974 64	
1820	111 62	248 88	191 83	87 21	207 43	" "	128 27	" "		
	$1367 34	$1611 95	$1803 72	$568 52	$23 6 59	$241 02	$452 33	$264 80	$8693 70	

The above ar ticles I have considered at the price I shou ld have to pay, had I no farm, and as I h ereafter charge the whole of my man hire to the farm, I here give the farm credit for man's labor, which I should have to pa y without a farm. I will say only half th e expense of a man, although I do not see how I could do with-

out the whole, unless I should make a boy answer; say	$	72 00
		1323 37
		$1395 37

From which I deduct the average annual expenditures for the same period, which have been as follows:

Blacksmiths' work,	48 37
Farming utensils,	56 16
Grain bought,	55 64
Man's labor,	344 89
Manure bought,	87 83
Pigs,	15 02
Seeds,	2 64
Trees,	12 15
As there has been no loss in the value of the stock or animals employed, but rather a gain, the oxen and cows having produced as much more (being termed off fat) as the horse has lessened in value, I charge the interest only on the value, which I consider $260,	15 60
	$638 30

Annual amount of income brought forward,	1395 37
Annual expenses to be deducted,	638 30
Balance,	$757 07

This balance is considered the net annual income of the farm for ten years before mentioned, but something may be added for the improvements made during that time, as it was in a low state of cultivation in 1811, though it did then contain a good number of fruit trees. For a criterion to fix this amount, I take the increased income (in consequence of betterments) for the last five years, which I find to be $199 28 on an average above the average income of the first five years; this, added to the above balance, gives $956 35, which may be considered a fair calculation for the present net annual income; and this may be expected gradually to increase without any additional expense, as it has done for the past time.

The result then stands, that the average income for the ten years is $11 68 per cent., which includes nothing for improvements; or, for the last five years, $14 70 per cent. upon the value of the land, in which value I have not included buildings, because the house belonging to the farm is leased; and the income is not considered in this calculation; were it to be added to the value of the farm, and the rent to the income, the result would be nearly the same.

The variations of the income in different years have arisen from several causes, viz.: increase and decrease of produce; by a difference in the seasons; the difference of value in different seasons; and sometimes in consequence of articles being sold in one year that were the produce of the former. I am, &c. &c.

* * * * * * * *.

The above account will be read with great interest and satisfaction, as an admirable example of care and exactness, in the highest degree creditable to this intelligent cultivator. The farming is, it is true, upon a small scale, but the same accuracy is equally applicable to large establishments.

I proceed now to subjoin other accounts, as they have occurred to me, not of the same minuteness, but equally useful and instructive.

I mention next the account of John Lorain, author of one of the best books on husbandry within my knowledge, and which is given in his treatise denominated "Nature and Reason Harmonized." He was formerly engaged in mercantile business in Philadelphia, but being unfortunate, he retired into the country, and took a farm in the neighborhood of the city. His accounts indicate extraordinary skill and good management, and present an example of success which few perhaps can expect to realize.

He first gives a statement of the crops on the farm, when he purchased it of Mr. Shriver, who then occupied it.

Statement of Mr. Shriver's crops in 1806: 64 acres,

242½ bushels oats, at 43 cts.	$	104 27
12½ " wheat, barley, and oat tailings, mixed, sold for		5 83
197½ bushels potatoes, at 50 cts.		88 50
36¾ " wheat, at 1.75,		64 31
5½ " buckwheat, at 50 c.		2 75
9 tons hay, at $17.50,		157 50
5 tons corn fodder, at $8,		40 00
226½ bushels rye, at 80 cts.		181 20
155 " barley, at 90 cts.		139 50
250 " Indian corn, at 60 cts.		150 00
8 acres rented to a widow lady, with the old farm-house, &c.		100 00
2½ acres rented to a negro man, with a small house,		29 16
31½ acres in pasture, woods, yards, roads, &c.		
106 acres.		$1068 02

Statement of Mr. Lorain's crops in 1811, five years after purchasing the farm of Mr. Shriver:

13½ acres—		
277 bushels of wheat, at $1.75,		484 75
25 tons of superior stubble crop hay, at $7.50,		187 50
15 acres—		
1086 bushels Indian corn, at 60 cts.		651 60
196 bushels barley, at 90 c.		176 40
23 tons corn fodder, at $8,		184 00
⅞ acre—		
263 bushels potatoes, at 50 c.		131 50
56⅝ acres—		
130 tons of hay, at $17.50,		2275 00
Received for soiling horses,		72 35
Sundries sold at market,		37 10
20 acres in roads, gardens, woods, &c.		
106 acres.		$4200 20

This is an extraordinary and flattering result, and must have been favored as well by a fertile soil and a good market, as by industry and good management.

I shall give next the account of the Salem Alms-House farm in Salem, Mass.

In the year 1817, about eighteen acres of land were broken up, the produce of which was as follows.

Pork raised, 4391 lbs., of which 2000 lbs. sold for $280; turnips, 1000 bushels; potatoes, 2700 bushels.

All the summer vegetables used in the house.

In 1818, about thirty-five acres were cultivated. Produce as follows:

Pork killed, wt. 7960 lbs.; 12 live pigs sold for $42; on hand, 57 pigs; corn, 400 bushels; potatoes, 2250 bushels; turnips, 900 bushels; three tons of squashes; fifty tons of pumpkins; and all the summer vegetables necessary for the house.

"In 1819 fourteen acres more of land were broken up and cultivated; and about the same quantity laid down to barley and grass; so that the acres of land actually in tillage were nearly the same this year as the last." The barley ground must be considered tillage, if included in this year's crops. Produce for 1819: pork already killed, 9012 lbs.; 28 hogs to be killed this season, and will now, (when this account was given,) average over 250 lbs.; a few live pigs sold when small; 73 live pigs to be kept over, now average over 170 lbs. each; corn raised, 325 bushels; barley, 235 do.; potatoes, 3138 do.; onions, 225 do.; turnips, 250 do.; pumpkins, 48 tons; squashes, 22 do.; broom corn, sufficient to make 1200 brooms; beets, carrots, cabbages, &c. sufficient for the winter; and all summer vegetables in abundance. The farm has superior advantages for collecting manure from the sea; rock weed, sea weed, and muscle bed, in the greatest abundance. I add the accounts of this farm for 1829, which were politely given me by the intelligent superintendent, since which time I have not been made acquainted with its management. Produce for 1829, "the same being as near the quantity as can be ascertained, without actual weighing and measuring:" 75 tons of English hay, 3 tons of salt hay, 600 bushels of corn, 4000 do. of potatoes, 200 do. of barley, 500 do. of turnips, 200 do. beets, 600 do. onions, 100 do. carrots, 50 do. peas in pod, 30 do. beans in pod, 10 tons squashes, 10 do. pumpkins, 300 dozen cabbages, 200 lbs. sweet marjorum, 300 lbs. sage, 200 lbs. balm and other herbs, 40 lbs. garden seeds, various sorts, 50 bushels cucumbers, 3 tons of melons, 100 bushels radishes, broom corn for 12 dozen brooms, 500 roots celery, 300 fowls, 11600 lbs. pork, 10 calves, 200 loads manure; apples, plums, peaches, cherries, &c., but few, say 10 bushels. Stock kept upon the farm: oxen, average number, 10; cows, 10; horses, 2; bull, 1; hogs of all ages, 80. 35 acres of ground were cultivated, 50 mowed. This farm contains now probably about 110 acres, several of which being ledge is incapable of cultivation.

The next example which I shall give is that of the City Farm in Boston. This likewise is a pauper establishment, and cultivated mainly by the inmates of the Alms-House. The produce of this farm, as given in their report for 1826, is as

follows. The prices seem to me greatly exaggerated; and much more than could have been realized by the sale of the articles. I give them, however, as they are put down in the estimate of the Directors, or stewards of the institution. The amount of produce is what is mainly to be considered.

4 tons of barley, cut green, at $16,	$64
4 " hay, at $20, - - -	80
3 " rowen, at $18, - - -	54
1½ " millet, at $8, - - -	12
Corn fodder, valued at - -	260
80 bushels corn, at 90 cts. -	72
2162 " potatoes, at 42 cts.,	908.04
330 " carrots, at 33 cts., -	108.90
300 " mangel wurtzel, at 33 cts., -	99.00
300 " turnips, at 16 cts., -	48.00
341 " beets, at 50 cts., -	170.50
1800 cabbages, at 4 cts., -	72.00
Peas, beans, small vegetables and fruit, sold and consumed in the house, about - -	500.00
	2448.44
Profits on the purchase and slaughter of beef, - -	700.00
Profit on the piggery, - -	914.28
	$4062.67

The article of corn fodder is rated at $260. We suppose it must have been used for soiling, though it would have been gratifying to have known how many acres were cultivated for so large an amount, and by what rule it was estimated. The profits of beef purchased and slaughtered there do not belong to the farm, unless the animals were fed or fattened upon the produce of the farm; so likewise with respect to the swine; and if they were fattened upon any of the above produce, it ought not to be credited twice. The number of acres cultivated is not stated.

The produce of the same farm in 1829 is given as follows: 31 tons of English hay, lucerne valued at $5, 300 bushels of potatoes, 417 do. beets, 450 do. mangel wurtzel, 886 do. or 21 tons of carrots, pasture for 14 cows (aftermath) 9 weeks, 222¾ bushels barley, 900 do. onions, 100 do. parsnips, 1000 cabbages, 600 bushels turnips, 2½ tons squashes; cash received for vegetables, $306.64; amount used in a large victualling concern, $176; celery on hand valued at $5. It is not clear how they ascertain the amount, $175 for vegetables used, but supposed by conjecture.

These returns from alms-houses and pauper establishments are highly interesting on various accounts. Any system, by which those who are thrown upon public charity can be made by their own labor to provide for their own support, is a matter deserving the particular attention of the political economist. In many instances in New-England, by the purchase of a farm, on which the poor of the town or parish have been maintained, the expenses of the town or parish have been greatly lessened; and in some cases, it is believed, under favorable circumstances, the labor of the poor has been a source of gain beyond a humane and wholesome provision for their wants. One good effect is certain, that the necessity of labor in these places prevents many idle and indolent persons from availing themselves of these institutions, who, if they were not compelled to labor, would be sure to take refuge in them; and become a tax upon the labors and earnings of the frugal, industrious, and virtuous.

I shall subjoin next some examples of private establishments, most of which have in one form or another been given to the public before; but which it may be useful and gratifying to place in connexion.

Tristram and Henry Little, of Newbury, Mass., reported the following amount of crops in 1824. The produce from 16 acres of tillage is as follows: 230 bushels of Indian corn, 40 do. of barley, 12 tons English hay, 2¾ do. millet, 400 bushels potatoes, 1500 do. beets and mangel wurtzel, 920 do. turnips, 150 do. onions; about two tons of cabbages and squashes, together with a variety of esculents common to farms in general.

John Warren, of Westborough, Mass., on a farm of forty-six acres, produces annually 50 tons of English hay, 6000 lbs. pork and beef, 1100 lbs. butter, 2500 lbs. cheese, 300 bushels corn and wheat.

Comfort Eliot, of Croyden, N. H., on a farm of eighty acres, in 1827, raised 175 bushels grain, 1930 do. potatoes; and turned off in stock, grain, butter, shoats, &c., enough to amount to over $500, and has a handsome stock left. He hired but three months' labor through the season.

The produce sold from the farm of Richard Hildreth, in Sterling, Mass., in 1826, is as follows: butter, $300; hay, $100; pork, about $150; calves, about $70. His farm consists of sixty-five acres, and the amount paid for labor out of his family was $30 in hay time. He keeps no horses, but sells his produce at the farm.

The farm of Wm. Bartlett, in Methuen, Mass., consists of 200 acres, a considerable part of which is in wood land and pasturing. How much under tillage is not said, but the following is the amount of crops for 1821: cider, 35 barrels; Indian corn, 600 bushels; potatoes, 700 do.; English turnips, 40 do.; white beans, 4½ do.; rye, 75 do.; oats, 320 do.; butter, 350 lbs.; cheese, 2000 lbs.; pork, 4000 lbs.; pumpkins, 40 cart loads; English hay, 75 tons; coarse fodder, 10 cart loads, equal to second crop hay, being made from an oat stubble laid down to grass.

The same farm in 1822 produced as follows: English hay, 70 tons; meadow hay, 10 do.; oats, 306 bushels; potatoes, 1200 do.; Indian corn, 300 do.; flax, (by estimation,) 500 lbs.; English turnips, 1100 bushels; ruta baga, 300 do.; cider, 100 barrels; winter apples, 40 bushels; pears, 20 do.; cheese, 2400 lbs.; butter, 400 lbs.; white beans, 6 bushels; calves, 12, at $7 each, $84; 4 fat oxen sold for $294. The labor and superintendence employ ordinarily three men and one boy, and three women or girls. In cases of emergency, extra labor is employed as far as can be done advantageously.

The farm of Jesse Putnam, of Danvers, consists of 44 acres of tillage, 40 pasture, and 18 of wet low meadow. The produce of this farm in 1821 was as follows: English hay, 24 tons; oats for fodder, 3 do.; wet meadow hay, 8 do.; Indian corn, 70 bushels; potatoes, 800 do.; barley, 70 do.; carrots, 40 do.; turnips, 20 do.; cabbages, 10 dozen; white beans, 2 bushels; green pears for market, 4 do.; summer apples, 130 do.; winter apples, 600 do.; pork, 2000 lbs.; pumpkins, 2 tons.

In 1822, the produce was as follows: English hay, 30 tons; oats for fodder, 4 do.; wet meadow hay, 7 do.; barley for fodder, 3 do.; Indian corn, 150 bushels; potatoes, 300 do.; onions, 150 do.; carrots, 90 do.; turnips, 150 do.; cabbages, 30 dozen; white beans, 7 do.; green apples, 150 do.; winter apples, 600 do.; pears for market, 50 bushels; summer pork, 2000 lbs.; pumpkins, 4 tons. He kept at this time no particular account of his dairy, but in 1825 the whole amount of butter obtained by him in six months, from five cows, carefully and highly fed, was 1038½ pounds, or nearly 208 pounds to a cow.

The next statement is that of Wm. Thurlow, in West Newbury. His farm consisted of 150 acres: 31 of which, mowing and tillage; 26 acres of meadow, 8 of which is salt marsh. The produce of the mowing and tillage is as follows, in 1828:

262½ bushels Indian corn, 106 do. wheat, 340 do. potatoes, 73 do. onions, 35 tons English hay, 39 do. meadow, including salt marsh.

The produce of his orchard, on an average, for the last eight or ten years, has been from 500 to 600 bbls. of winter apples, and 50 do. of cider.

The produce of the dairy, the present season, has been—butter, upwards of 400 lbs.; cheese, 3,000 lbs.; cash paid for labor, from 1st Nov., 1827, to Nov. 1st, 1828, is $127.

Matthew Hooper's farm in Danvers, Mass., consists (1831) of 60 acres mowing, 25 acres tillage, 50 pasturing. His produce as follows:

English hay, 35 tons; low ground hay, 35 do.; salt hay, 1½ do; Indian corn, 650 bushels; potatoes, 450 do.; wheat, 14½ do.; rye, 15 do.; oats, 85 do.; onions (3 acres), 900 do.; pork, 2,000 lbs.; beef, 5,000 do.; butter, 603 do.; new milk cheese, 440 do.; carrots, 1 acre, 15 tons; squashes, 2 do.

Jesse Curtis' Farm, in Marblehead, Mass. In pasture, 61 acres; mowing, 27; tillage, 6 acres. Produce of the farm, 1831:

English hay, 49 tons; rowen, 8 do.; swale, 1 do.; corn, 159½ bushels; white beans, 47 do.; peas in pod, 6 do.; beans, 3 do.; turnips, 40 do.; potatoes, 175 do.; butter, 1,019 lbs. 12 oz.; pork sold, 1,330 lbs.; 9 pigs sold, $27; 5 calves sold, $20; 1 lamb, $3.33; cash received for pasturage, $30.

I add next the account of Turnus Harder, of his farm in Kinderhook, Columbia co., N. Y., given for the year 1833:

Farm, Cr., 20 acres meadow, 2 tons hay per acre, sold at $7½ per ton,	$3,00
20 acres, producing 1,000 bushels corn, at 62½ cents per bushel,	625.00
40 acres, producing 800 bushels wheat, $1.06¼ per bushel,	850.00
500 bushels potatoes, 25 cents,	125.00
3,000 lbs. pork, at 5.50,	165.00
Sold one beef,	25.00
500 lbs. butter, at 16 cents,	80.00
225 lbs. wool, at 50 cents,	112.50
55 lambs, increase of the flock,	80.00
	£2,662.50

The item of pasturage not put down.

Farm, Dr., to hiring one man per year,	$100.00
Do. do. seven months,	70.00
Do. do. 15 days in haying & harvest,	13.12
3¼ tons plaster, at $7.50,	26.25
3½ bush. clover seed, at $7.50,	26.25
Taxes $15, mechanics' bills 50,	65.00
	$320.63
Income,	$2.341.38
This farm sold at $60, for 200 acres, $12,000	
Stock and implements, 1,000	
13,000	
Interest on this sum at 7 per ct.	910.00
Gain	$1,431.83

I extract from the Cultivator of December last, the following account of the produce of the farm of the distinguished conductor of that Journal, who is kind enough to give it from his "memorandum book" over the signature of B. J.

36½ acres. The soil is a sandy loam, and no part received but one ploughing for a crop.

17 acres produced 53 tons of hay; 4 acres, 74 bushels rye; 1 acre, 2 do. wheat; 1½ acres, 574 do. ruta baga; 4 acres, 776 do. potatoes; 5 acres, 360 do. sound corn; 4 acres, 87 do. barley.

The wheat was destroyed by the grain worm.

"At present prices the products I have enumerated are worth about $1,300, and average about $36 to the acre."

I fear I may have already extended these details too far; yet they seem to me valuable, and I shall therefore add one or two more accounts on a smaller scale, with which I have been favored, but which have not before been given to the public.

Proceeds of a farm purchased in Newark, N. J., in 1814. The prices of produce were high on account of the war. The farm consisted of 25 acres mowing and tillage land, and 10 acres of woodland and salt marsh.

Sold butter at 31 to 40 cts. per lb. to amount	$225
Wheat, 60 bushels, at 1.75 cents,	105
Hay, 20 tons, at $20,	400
250 bushels corn, at $1 per bush.	250
250 do. potatoes, at 25 to 31 cents, say 28,	70
Carried over,	

Brought over.	
5 pigs, purchased in the fall for $4, sold the ensuing fall for $100,	96
	$1,146

Kept 6 cows.

Labor employed was one man and one boy. The man changed work with his neighbors, and worked from home enough to pay for the boy's labor.

Amount of the product of seven and one half acres of land, being alluvial land, on the banks of the Connecticut.

In 1828, it was leased, the owner to receive half the product. He furnished 50 bushels of manure, to be taken in his yards. It was cultivated in Indian corn. He received half the top stalks, all the bottom stalks, and 25 bushels of corn per acre.

In 1829, leased on the same terms; same as to manure and fodder; and he received 22½ bushels of corn per acre.

In 1830 he leased it for broom corn; and delivered six loads of manure to the acre on the ground; he received as rent broom or brush prepared for market, amounting to $27 per acre.

In 1831, he leased it for broom corn, delivering six loads of manure to the acre on the ground, and received a cash rent of $16 per acre.

In 1832, without manure, he sowed it in oats, and obtained from 33 to 35 bushels to the acre, which he sold at 42 cents per bushel.

In 1833, without manure, he obtained an average yield of 20 bushels of sound wheat to the acre, valued at 150 to 175 cents per bushel.

The land was estimated at $60 per acre; land of the same quality and situation having been sold recently at that rate.

Abstract:

1828.	25 bushels of Indian corn, at 75 cents,	$18.75
—29.	22½ do. do. do.	16.87½
—30.	Broom corn, sold for	27.00
—31.	Rent of land in broom corn,	16.00
—32.	34 bushels of oats, at 42 cents,	14.28
—33.	20 bushels of wheat, at $1.50,	30.00
	Per acre,	122.90½
Six years' interest upon $60, at 6 per cent.		21.60
Profit of 6 years upon each acre,		$101.30½

The manure was furnished on the farm, and the stalks and straw may be considered as an equivalent for that and the seed.

The subjoined is an account of a small operation in sheep husbandry, by an intelligent and skilful farmer, who was unused to this kind of husbandry, and therefore pursued it in a small way, and with an extraordinary caution.

Purchases:

1832, June,	91 sheep, at 1.08⅓ cents per head,	98.58
"	" 42 do. 1.00 do.	42.00
"	" 41 do. 1.16⅔ do.	47.83
	Carried over.	

	Brought over.	
September,	9 do. 1.00 do.	9.00
November,	8 do. for	15.00
December,	56 do.	169.44
"	46 do. 1.25 each,	57.50
	Total, 293	439.35

June, 1833. Had 48 lambs at shearing time.

170 sheep, and 48 lambs remain.

Sales:

1832, Nov.,	48 sheep	58.50
1833, Jan.,	3 do. at	7.75
March,	60 do. at 3.25,	315.00
	9 do.	35.42
	8 lost in the year " "	
	123	416.67
Wool sold,	317 lbs. 5 oz. at 50 cts.	158.65
	146 lbs. 13 oz. at 42 cts.	61.67
	45 lbs. at 50 cts.	22.50
		259.49
		439.35
Balance in favor of sheep,		$220.14

I have collected these details, perfectly aware that to many persons they will appear to be small affairs; but I deem them not on that account less important. This exactness is highly creditable to those who practise it; and is at the same time, as Dr. Paley well remarks of habits of this nature, a source of innocent gratification. "Many a little," says the old Scotch proverb, "makes a mickle;" and it is in habits of such minute exactness and accuracy that many of our most wealthy and independent citizens in every department of business have laid the foundation of their prosperity. Without it, the largest estates may melt away like ice in a summer's sun. H. C.

Meadowbanks, August, 1835.

Saxony Sheep. By H. C. [For the New-York Farmer and American Gardener's Magazine.]

Since my communication in the last N. Y. Farmer on the subject of Saxony Sheep, I have received information from another large holder of the pure Saxony sheep, that his sheep at shearing averaged 2 lbs. 6 oz. of wool; sold for 90 cents to one dollar per lb.; and that from 200 ewes he raised 180 lambs, though the spring was very unfavorable: and from another, that from 150 ewes, he raised 140 lambs. The last spring, from the long continuance of the cold, the extraordinary scarcity of fodder, and the shortness and backwardness of the pastures, was very unpropitious to the raising of lambs; and many owners of sheep have told me that their losses in lambs were greater than they had ever before known.

H. C.

August, 1835.

SORREL PIE.—Among the tarts which the season affords, that made of the common sorrel growing in the fields is by no means inferior to most of them. It is made in the usual manner, with sugar.

L. T.

July, 1835.

Fig. 2.

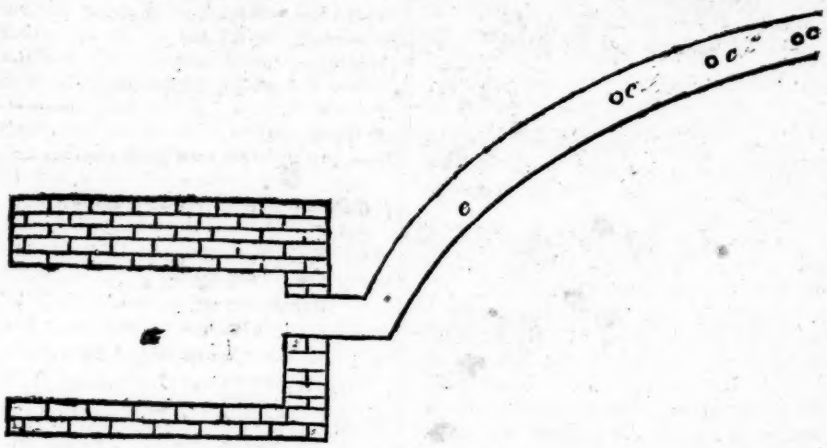
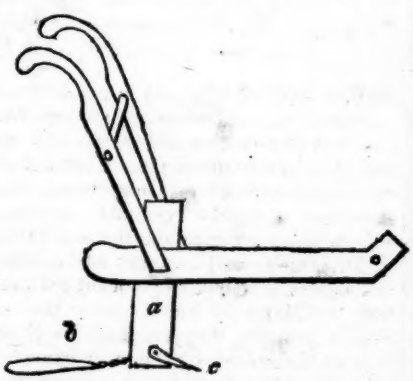


Fig. 1.



New Method of applying Carbonic Acid to the Soil as Manure. By R. S. Thomas. [For the New-York Farmer.]

To the Editor, &c.

Dear Sir,—I send you a short account of the method I have used to apply carbonic acid to the soil as manure. If you think the subject of sufficient importance, you will probably confer a benefit on our country by giving it a place in your useful journal.

In the combustion of wood or coal, a large quantity of carbonic acid gas is produced, which is known to act as a fertilizer, whether applied to the leaves or roots of plants. From the trials I have made with it, I am satisfied it can be applied to the soil with less labor and expense than any other kind of manure.

Its application is simple and easy. It is only to convey the smoke from a furnace into the soil, through holes a few inches under the surface of the ground. These holes are made with a plough, something like a common coulter, only the blade is thinner. A round rod, about a foot long, and an inch and a half in diameter, is fastened by a small short chain to the lower part of the blade, and follows exactly in the track of the point, opening a round smooth hole. See fig. 1.

The field intended to be fertilized is run off with this plough the distance the rows should be apart, so that a hole shall be under each row. A ditch is then cut across the rows so as to intersect all the holes, and when covered serves as a flue or chimney to carry the gas from the furnace to the small holes, and through them to every part of the field, where it permeates; the soil is absorbed by its moisture, and finally taken up by the roots of the plants.

It is obvious that the furnace should be situated at the lowest part of the flue, to give it draught. See fig. 2.

There are other important results to be gained by the use of this contrivance besides the fertility it imparts to the soil. It gives a hot-bed on a large scale, with its heat completely under control. Nearly all the heat generated in the furnace is deposited in the soil; by its aid the dominion of plants may be extended farther north. Cotton can probably be raised in New-England; and sugar cane in all the country which now produces cotton.

It is probable that other gases may be used with advantage, especially carburetted hydrogen, which is easily and cheaply produced by burning wood in a smouldering furnace.

Fig. 1 shows the construction of the plough with which the holes are made: *a*, the blade; *c*, the point; *b*, the rod, which opens the holes.

Fig. 2 is a vertical section of the furnace, and a small part of the flue: *d*, the furnace, or place where the wood is burnt; *e*, the flue; *c c*, &c. the holes made by the plough.

Yours respectfully,

R. S. Thomas.

Richmond Court House, N. C., July 28, 1835.

The foregoing has, we believe, entire originality in favor, and not only shows a mind capable of traversing untrodden ground, but not destitute of science to guide it. His plan, though certainly correct in principle, is one of those which, though extremely plausible, we think could not be decided on with certainty by reasoning *a priori*, and which consequently requires the test of experience. But Mr. T. speaks as having so tested, and we certainly see no reason to doubt, if some difficulty which we do not foresee should not be found in the practice, we should think it one of the most valuable improvements ever made in the science and practice of agriculture, and still more so in horticulture.

[For the New-York Farmer.]

We hear it said frequently, that gypsum is not efficient near the sea-board, and the reason generally assigned for its inertness in those localities is the influence of the sea air. May not this be a mistake, or rather a vulgar error? I apprehend it is from the result of the following experiments made by Lord Dundas, and by him communicated to Sir John Sinclair, both orthodox names in the annals of agriculture. Lord Dundas had three estates upon which he applied this manure; upon two of them he found the most beneficial results; upon the third it was found quite inert. He subjected the soil of the last to a rigid chemical analysis, and the result proved that the estate upon which the gypsum exercised no beneficial result, was already supplied by nature with this ingredient. May not this be the case with all the Atlantic farms? Ticonderogensis.

Causes of Deterioration in grafted Fruit, and in grafted or inoculated Trees, Tuberoots, &c. By S. B. [For the New-York Farmer.]

The fact has been long and somewhat generally known to horticulturists and others, that a great number of the most useful plants, when cultivated from the seed, owing to causes yet in a great measure undiscovered, but which the science of vegetable physiology may in time explain, exhibit, not only from the seed of the same fruit, but even from the same identical seeds, such varieties, that while some are of the highest value, others are comparatively worthless. Thus fruit from the seed of the same apple, and potatoes from seed taken from the same potato ball, will, it is said, often have qualities totally different from the parent apple or potato.

This is remedied with respect to the fruit of trees and shrubs by the various methods of grafting, inoculating, &c., and with potatoes and other tuberous roots, by planting the potato, or other tubercle, instead of the seed. In grafting and other similar operations, the scion, bud, or other part, inserted in whatever way, if it lives, produces fruit similar to that of the tree or shrub from which it was taken; and the same is the case with the roots.

But it has been seen, and probably will always be seen, if due notice be taken, that the choice fruits and roots thus preserved, at some period of time deteriorate, and finally become extinct; but though I should think the cause is almost self-evident, I do not recollect to have seen it noticed.

In all perennial plants, whether trees or shrubs, as well as in animal life, there seems to be a limit of longevity, peculiar to every species, beyond which it cannot pass. In all cases, the article arrives at maturity,

fructifies, propagates, and dies; and the species is continued in successive generations.

There are, no doubt, ways and means of protracting even animal life to some extent, but vegetable life in a much greater proportion; but still the protraction, even in vegetable life, has its limits. The scion or bud cut from a tree is still part and parcel of the same tree, though transferred for nourishment to another. Its age is still to be reckoned from the period of germination of the seed. It would be difficult to ascertain the extreme limit of the life of an apple tree; but suppose it to be one hundred years. At twenty years old, scions are taken from this tree and engrafted on another stock, no matter of what age. That those scions retain the organization, and all the peculiar properties of the parent, is obvious, not only from its producing the same kind of fruit, but from its exhibiting all its other apparent peculiarities, the life of this graft may be somewhat prolonged by being engrafted on a younger stock, or its growth accelerated by more copious nourishment from a larger one; but this extension or acceleration gives it no pretensions to immortality. The graft has still expended twenty years of its lifetime, and all the grafts subsequently taken are still subject to the life-lease of the parent tree; and as that in the decline of life grows less prolific, and its fruit less delicious, all its branches, however they may have been transferred to other stocks, partake of the same fate.

The potato also has its lifetime, which commences with the germination of the seed taken from the ball and sowed. These seeds produce the first year small seedlings, but which being cultivated from year to year, their roots spreading, and the small tubercles they contain increasing, produce after some years' growth potatoes of the sizes usually met with; but the seeds from balls of the same potato, and perhaps from the same ball, produce potatoes of almost unlimited variety in color, shape, and internal qualities. Were they to remain undisturbed by frost, they would increase in size and number as the roots acquired strength to nourish them, in the same manner as any other perennial plant, and when they had reached maturity, they would also in the same manner gradually decline, and finally die. During this decline, the tubercles or potatoes would gradually depreciate in size and quality. The potatoes that we gather in autumn are not a distinct generation of an annual plant, any more than a scion or bud from an apple tree; and were it not for the frost, they would doubtless remain in the ground the lifetime of the plant, and successively flourish, decay and die, like the roots of an apple tree.

This view of the subject, if correctly taken, will fully explain why the choicest varieties of fruit, propagated by transfer from one stock to another, are found to deteriorate, and finally to disappear; and why we meet from time to time with new and highly extolled varieties of the potato, which in a few years disappear, and are seen no more. If we estimate the life of a healthy apple tree at one hundred years, I think the conclusion almost irresistible, that no variety of its fruit propagated by transfer can be perpetuated more than one hundred and fifty years; and probably the limits will be much shorter; and if we suppose the lifetime of the potato plant to be forty or fifty years, we may naturally calculate the product to continue in perfection about from twelve to twenty years, which is just about the time that each kind maintains its reputation.

Here, then, the question naturally follows, are there no means of securing and perpetuating those rich and rare qualities we so much admire in fruits and other vegetable productions, or are they mere evanescent enjoyments, like the figures in the kaleidoscope, which seen once can never be seen again?

With all due deference to those who have had better opportunities, and are better acquainted with the subject, I should think all the desirable qualities of fruits propagated by transfer, and also of potatoes and other articles produced by cuttings or layers from the parent plant, might be preserved to unlimited futurity, not only in their present, but in increased, purity and perfection.

The superior qualities we wish to preserve and to improve are probably the effects of causes too subtle for human investigation. If the wished result is in any way attainable, it can only be so by following the winding tracks of hypothetical analyses. I would suggest three distinct tracks or modes of investigation, and I would advise to pursue them patiently and experimentally; perhaps one alone may lead to the object aimed at, or it may require all three.

Probably the whole secret may be developed by means of the science of sexual vegetable physiology. It is well known, that the varieties of plants of the same species are essentially affected by the means of their sexual organization.

In the second place, as every different variety in any species must be the effect of some cause, perhaps that cause or causes may be some peculiar treatment or location, or it may consist in some circumstance to be observed in the selection of the seed. All these things are known to have more or less effect; and, perhaps, by reiterated experiments patiently conducted, and carefully observed, the very effect we wish for may be produced and its cause discovered.

A third mode, and if more tedious in its operations it is in the present state of knowledge more sure in its effects, is to continue sowing seeds from year to year, letting the plants grow under proper care till they produce fruit. If among these trees any choice of good fruit can be found, select the tree which produces it, and graft from it upon the stocks of the others, and this practice continued would no doubt effect a constant and gradual improvement; and if one sample of choice fruit should be obtained from a thousand trees, that one tree by transfer would produce a thousand others. By these three different modes, separately and connectedly attended to, if the qualities of fruit would not in time reach perfection, I should have no faith in reasoning from analogy.

With respect to potatoes, let any man who is a connoisseur in them, and who wishes to have them of the first quality, procure the seed from the ball, and sow a small bed every season, and the second season, when they will probably be as large as filberts, select such as suit him, (for he will find them of nearly all kinds,) and in two or three years more they will be of fair size for use. And if he continues to do this every year, there is no doubt but he will have better potatoes than his neighbors, who do not do it. S. B.

The following communication is from a gentleman in Connecticut, who will accept of our thanks for his very satisfactory apology for having delayed remitting his subscription for the current volume of the Farmer. He shall have the Appendix, and we will offset his communication against the delay. We shall be happy to receive similar apologies from other "negligent" friends, if made soon.

Hartford, Con., Aug. 5.

I enclose you three dollars for my subscription for the current volume of the New-York Farmer. Negligence in such matters is my only excuse for not sending it before, as it makes no difference with me when I pay so small a sum; and I consider the Farmer the best periodical I take, and well worth the charge.

The prospect now is, that the season will be in the main favorable, and the crops at least ordinarily good, notwithstanding the inauspicious backwardness of the months of April, May, and June. The dry weather in June injured the crop of grass, but the favorable rains for the last three or four weeks have worked wonders in every kind of vegetation, and the late cuttings of hay will no doubt come in well. As to wheat, we raise none, or none worth naming, in this quarter, but rye has come in well, and of oats there is a good crop. Corn, our principal crop of grain, which was extremely unpromising the 1st of July, now looks remarkably well. Its growth for three or four weeks has exceeded any thing I have ever witnessed, and should the weather continue warm and favorable, the product will be great. But we have had a remarkable change in the weather the last two days, which, should it continue, forbodes ill to the corn crop. It is said that in the low grounds there was some frost last night, and I have just heard that there was quite a frost at Springfield. There was a frost as late as the 22d June, which in some locations in Massachusetts and Connecticut killed the leaves of the corn.

Gardens which were beginning to suffer from the drought, are now very flourishing, and their products abundant. Of summer fruits we have had an unusual supply; the quantity of cherries has been unexampled, and our market has never presented such supplies of this fine fruit. The cherries sold by one man in this vicinity amounted to over two hundred dollars.

Now I am speaking of cherries I will state a remarkable instance of the productiveness of a cherry tree, communicated to me by James L. Belden, Esq., of Wethersfield. Some few years since, Mr. Belden gathered from one tree *thirteen bushels* of cherries, nine of which were sold in this city for twenty-six dollars, and had the whole been marketed, they would have amounted to thirty-nine dollars for the fruit from one tree. This is an uncommon species of cherry; the tree is very large and very hardy, but the berries are smaller than the blackhearts.

Strawberries have also been abundant, and there is an increasing attention given to the cultivation of this heathful and excellent fruit. The old Chili seems to be the most productive, and the best sort cultivated here. Raspberries, although injured some by the early drought, have nevertheless been tolerably plenty. Little attention is paid to the cultivation of the English gooseberries in this vicinity; those in my garden have been large and entirely free from mildew, which is not always the case.

Apples are now unusually large and fair, and the trees well loaded. Of pears, too, there is a prospect of a good supply. The severity of the winter entirely destroyed the fruit buds of the peach, and in a great measure of the plumb; the trees of the former shared but little milder fate than the fruit, as at least one half were killed in this vicinity. I topped all mine down to the first branches, and about one half grew, which now are very thrifty, and are making wood fast; this practice will give them a top of new wood, and to all essential purposes convert them into new trees.

Of grapes, my Burgundy and sweet water vines, having been covered during the winter, bear full; and notwithstanding the backwardness of the spring, the prospect is that they will ripen well; their growth has been unusually rapid for the last four weeks; the berries are now nearly full size, and they are entirely free from mildew. My Isabellas and Catawbas, although several years old, were not hardy enough to stand such a winter as the last, and the like fate befel all others, so far as I have heard, in this vicinity. They were all killed down to the root, but have sprouted and grown with astonishing vigor, so that the vines are already about the size they were last year. From the rapidity of the growth, they will be tender, and I intend covering my vines the ensuing winter, and think that generally this will be the only safe course.

I am yours, respectfully,
J. M. N.

Should "Farmer C." treat us hereafter as we have treated his communications of April 13th, viz., *forget* or neglect us, however, (as it certainly has been with us,) unintentional it may be, we should exceedingly regret the error of our ways. He will not, however, it is to be hoped, visit our sins of omission with rigid and exact justice; but for every month's delay of the following communications, furnish us with *two* others of equal utility and interest, and we promise that if they are received by the 15th of the month, they shall appear in the number of that month.

[For the New-York Farmer.]

MR. EDITOR.—I have always considered it necessary to the welfare of breeding ewes, that they should be supplied daily with a small quantity of grain, in addition to their usual keeping, from the middle of February till they have dropped their lambs. (Lambs are thought to do best coming from the 20th of April to the 10th of May.) It imparts to the ewes greater strength, invigorates their offspring, better enabling them to live and prosper. I have followed feeding shelled corn and oats in troughs. This does well enough to flocks not exceeding from thirty to sixty, but where the flock is larger the stronger crowd out the weaker, and obtain more than their proper allowance. For three years past I have cut and cured a part of my oats, as many as I thought would be necessary for winter feeding, when green, or just fully out of the milk. If they can be secured without rain upon them, they will not be likely to shell, and the sheep will eat them quite clean, straw and all. I think it more suitable food for sheep than indian corn; not so heavy, and more enlivening. At noon, I usually scatter from six to eight bundles of oats in the hay racks for an hundred sheep. From the first of January till grass comes in the spring, I pursue this course with my past lambs, and have *never lost one*. My old ewes, with all the weak and faulty from every flock and grade, at the beginning of winter, I put in small flocks by themselves in well sheltered yards; these I feed with corn and oatmeal mixed: they frequently do as well as those that commence the winter in high condition.

FARMER C——.

April, 1835.

[For the New-York Farmer.]

MR. EDITOR,—In answer to S. F., relative to sowing oats, or corn stubble, before ploughing, I would say, first plough the ground; then harrow it, next sow the grain, harrow down thoroughly sow Timothy, red-top, or clover, or a mixture, pass a roller over it, pick off the loose stones, if any, and it is my opinion if all this is done in time, on good ground, S. F. will have a good crop of oats, and his grass seed will be likely to do well. My objection to sowing before ploughing is, it throws the grain as the ground rises before the mould-board too much in the furrows; consequently, the grain rises thick on the land-side of the furrow, and leaves a space between. By ploughing and harrowing, the earth is made level and mellow, two things highly necessary. The seed may be scattered by a practiced hand evenly over the ground. There will not, very likely, be any stinted or shrivelled heads. I am not in favor of grass-seeding with oats, because they require more nourishment, and exhaust the soil more than most other crops. When growing do not let the sun's rays fall upon the ears too much. I think barley much the best spring crop to seed with. If possible I seed in the fall with wheat. This is according to my practice. Let others become fully satisfied it is right before they adopt it as a standing rule.

FARMER C——.

April 13, 1835.

To the Editor of the N. Y. Farmer:

MR. EDITOR,—I am one of that class of farmers, the palm of whose hand is made callous by its familiarity with the plough. I am a working man by choice; rise at five, breakfast at half past six, in field by seven, keep steadily employed till twelve, then to dinner. Out at one or two, home at early sunset. My aim is *always* to be with hired men during the day, for "a man's eyes will do more than both his hands," says a wise man, and "to hire workmen and not oversee them, is to leave them your purse open." At no season do we use ardent spirits. Evenings are usually spent in reading and profitable conversation. Always write at least one line in my diary. I find this among my most useful books of reference, for

"'Tis greatly wise to talk with our past hours,
And ask them what report they bore."

I here transcribe one week's record for the N. Y. Farmer, should you think a mass so crude worthy a place in its valuable pages.

Monday, April 6.—A cold stormy day. Purchased five bushels of seed barley, at 5s. per bushel—paid cash; fifteen lbs. tallow, 1s. per lb., cash—paid. Went to No. 3 cedar swamp for stakes, with two teams—observed about one man's barn seven colts, three cows, four oxen, thirteen hogs, and ten sheep. No yard nor shed for them; condition of all bad; two dogs at the door. This farmer has two hundred acres. This example not worth following.

Tuesday, April 7.—Commenced ploughing for barley on field No. 2, being twelve days later than last year; man splitting rails to fence No. 13; fine weather, and warm.

Wednesday, April 8.—Continued ploughing; splitting rails; received a visit from my old friend S. S; no ill luck to-day; fine weather; cow Sabrina has a calf this day.

Thursday, April 9.—Sold 40 bushels of oats, 3s. per bushel, $15, received payment; continued one team ploughing, another picking and drawing stones; rails going on; all things work well.

Friday, April 10.—Sowed field No. 2 to barley, 2½ bushels per acre; harrowed in barley; sowed 8 quarts timothy seed to an acre; rolled the same; changed flocks, Nos. 1, 2, 3, to different pastures; turned colts out to pasture for the first time, 3 days later than last year.

Saturday, April 11.—Commenced ploughing for oats field No. 3, two teams; purchased a field of J. L. H., 21 acres, $22 per acre, paid cash $463, cheap; to be known as field No. 19; set and hanged two gates; carried 8 bushels of wheat to mill; paid cash $3 for sundries; all's well; weather fine; and so closes the week.

My brother farmers will excuse the want of method and proper arrangement in the foregoing paragraphs. I record events and circumstances in the order they tran-

spire, and if those who do not keep an account of what is going on daily, would turn ten minutes daily attention to this subject, they might, unless their memories are longer than mine, save many useless inquiries. FARMER C——.

The following communication is from an intelligent gentleman from Alabama, who, weary of the fatigues and perplexities of a mercantile life, is now about to devote himself to the more peaceful, more healthy, and more happy life of Agriculture. We are obliged to him for this *one*, but shall be much more obliged to him for those which, *we hope*, are to follow—detailing the result, and we trust the success, of his enterprise.

New-York, 1st Aug., 1835.

SIR,—As no doubt you and your readers take a deep interest in whatever concerns the extension of agricultural pursuits in all parts of our vast country, I take the liberty of giving you a brief sketch of my intentions, and a little of my stock.

I have been more or less of a merchant from early life, but rather tired of such business, I have been looking a-head to the time when I should engage with energy in what I consider a more independent and pleasant occupation, and with this prospect I have for a few years been picking up such stock as came in my way that suited my notion.

My main object will be sheep farming; and as a commencement, in addition to my stock at home, in Alabama, I have now with me here for shipment, on Tuesday the 4th instant, three bucks and twelve ewes, of the full Bakewell breed, raised by Mr. Thomas Dunn, of Albany; a pair of Mr. Bement's fine hogs, of the grass and Berkshire breed. I have also hired "Tam Telfer," a full bred shepherd, from the Cheviot hills, just imported, and have with him a pair of shepherd's whelps. I send the whole by canal to Philadelphia, thence by canal and railroad to Pittsburg, thence by steam to Alabama. I hope to have at least 500 head of ewes, common stock, in a few months; on them I will cross with the Bakewell, and from time to time make other importations. With a view to increase my sheep stock to 2 or 3,000, I intend locating my stock in Mississippi, where I have a place sufficient to keep 5,000. I know wool raising can be made profitable there, and, if spared, I'll test it.

My other stock as follows:

Sultan, an imported Maltese Jack, 13½ hands high, the finest animal of the kind I ever saw. Black Hawk, a young Jack of the very promising. Deacon Giles, a year Sir John stock, 2 years old, 13 hands high, old, full brother to Black Hawk. Major Jack, a year old, half brother to Black Hawk, both very fine. Three other young Jacks, common stock.

I have 18 Jennets; some of them very good: one, a four year old, by Sir John, is 14 hands high. I have sent to Gibraltar by the brig Franklin for the best Jack and Jennet to be had. One mare by Timoleon; dam by Sir Archie, now in foal, by Luzborough, imported. Same mare has a year old filly by Stockholder. Two fine fillies by Leviathan; a 3 and a 2 year old. An assortment of other horses, mares, colts, and mules, say about 50, 30 of which are on my farm in Mississippi, where I intend keeping most of my stock. One English cow and yearling calf, with other common stock. So you see I have made a beginning, and I intend going on, and will no doubt succeed.

I have lately sold two young Jacks, two years old, for four hundred dollars each—my own raising. Your's,

J. E.

We very cheerfully give place to the following communication, as it teaches an important lesson, and one which may be of great service to some of our readers. It is indeed true, that for information of this kind, the district school-house is the place of inquiry. Who that has not forgotten his school-boy days, does not recollect the pleasure he has derived from communicating at some time useful information to a *stranger?*

How to find a Stray Horse.

MR. EDITOR,—I wish to tell your patrons and the public how to find a stray horse. Several years ago my mare broke out of her enclosure, and was gone several days before I had knowledge of her elopement, but I soon learned the course she took, and pursued her about nine miles, when I lost all trace, and could gain no further intelligence of her, although I rode round and about the distance of nearly seventy miles. On the third day of my pursuit, and fourteen miles from my dwelling, I began to despair of finding her, and thought I would return home forthwith; but I was then drawing near a district school-house, and the thought occurred to me that I would inquire for her of that group of children. I rode to the house, and requested the school dame, (a real Rebecca for courtesy,) to inquire of her scholars if any of them had recently seen a stray horse? Instantly a response from within greeted my ears, "Yes, ma'am, *I* have seen one." "Go and tell the gentleman," said the young lady, "what you know about it." There instantly appeared at the door a little urchin of ruddy cheek and beaming eye, with a countenance full of expectation. I said to him, My little man, have you seen a stray mare within the last two or three days? "Yes, sir." Will you describe her to me? "Yes, sir; she is red, she is a very pretty horse." Has she any white about her? "Yes, sir, some on her hind feet, and a leetle stripe in her face." What else do you recollect about her? "She has some grey hairs on her hip, and trots pretty; pa' says he should like to own her." How large is she? "O I don't know—she is a pretty horse." Has she a long or short tail? "It is some long, not very long."

Well, thought I, he must have seen her. Can you tell me where I can find her? "Yes, sir, she is at our house." Where is your house? "Over there," (pointing to a broken mountainous country.) How far is it? "Most two miles." What is your father's name? "'Tis Mr. Hart." I took the direction of my informant after blessing him, and having worked my passage two miles, over rocks, where the impress of human foot was seldom made, I found my horse, to my great satisfaction, for she was indeed a favorite with me, and with my family. As I returned I was astonished at my stupidity in not thinking of this method of finding my horse before. Nothing can promise more success than this. If we knew that the *men* of every school district in town were assembled in their respective districts, and we were searching for a stray horse, we should go directly to those groups of men, and learn by one inquiry what we could not otherwise obtain, perhaps, short of riding ten miles, and spending nearly half a day. But if we can inquire of their children thus assembled, we do better still, for they are more observing in such cases than their parents. They are always more interested in a stray horse than adults are, and will observe them more, partly from fear of them, and partly from their instinctive inquisitiveness. If a man will direct his steps to school-houses when in search of any stray animal, and especially a horse, he may give the whole town a thorough search in about half a day; and if the animal is *thereabout*, he is almost sure to find it. We say to those interested, *go thou and do likewise.* H. H.

The following communication is given for the benefit of whom it may concern, as we are wholly unacquainted with the article recommended.

MR. EDITOR,—Among the very many useful communications I have seen in your valuable work, it has surprised me that you have never recommended to our farmers the use of *Coal Tar* for painting barns, out-houses, farming implements, fences, &c. Its power of preserving the wood is unequalled, and in a little time the sombre appearance wears off, and it looks quite as well as the lead-colored paint does; and for cheapness, nothing can be compared to it. As I remark, it is now selling in New-York for from 2½ to $3 a barrel; and a barrel will paint a very large building. It is laid on with a paint brush, in the same way as paint is, and, I feel satisfied, it only wants to be known to become of general use with our farmers. ONE WHO HAS TRIED IT.

Clermont, N. Y., June, 27, 1835.

REMARKS.—We have no question of the correctness of the above, nor of its importance to the public, especially to farmers. We would suggest in addition, all cases where preservation and not beauty is the object, as for fence posts, &c., to use as a paint any of the heavy ochres, as stone yellow ochre, or umber, with a small addition of pulverized oxide

of manganese, which articles can be had in unlimited quantities, and at very low prices, as they are found to any extent needed, in Pennsylvania, on an estate belonging to a gentleman in Brooklyn.

We think proper farther to observe, that we have in preparation, and shall shortly present our readers with, such brief instructions in painting as will enable every farmer to do his own painting, or to know how to direct it. E.

[For the New-York Farmer.]

MR. MINOR: Sir,—Among the various associations of men, which have been and are still being formed every day, to effect various useful purposes, it appears to me astonishing that there never has been—to my knowledge, at any rate, I am confident there never has been in this country—an *Entomological Society*. Men have associated to preserve themselves and their interests, not only against one another, but against beasts and birds, and against almost every kind of enemy that could possibly injure them; but against a class of enemies more destructive than man or beast, and against whose ravages the advantages of association are more necessary than against any other, I do not know that any association has been formed.*

I doubt whether there is any other physical cause, from which the effects of human labor have suffered so much as from the ravages of insects. In some parts of the world large sections of country are frequently laid waste by them, and whole nations have been reduced to famine. Even in this (on that account) favored part of the world, where we are comparatively strangers to the horrid effects they produce, there is perhaps not a farmer, from one end of the country to the other, who does not suffer by them more or less. A very considerable part of this state is no longer capable of producing wheat, and probably hundreds of thousands of bushels have been destroyed by them.

Owing to their minuteness in size, and mutations of form, and modes of existence, they are harder to guard against than the most ferocious wild beast, for these can be overcome, and driven out of any section of country, and the same causes render their natural history less understood; and yet it is through that knowledge alone that we can ever find any protection against them. I think there can be no doubt, but that if we perfectly understood their natural history, and could keep track of them in all the various changes they go through, if we could not utterly exterminate them, we could so far reduce them, and guard against them, as to have little to fear.

Now, the only way in which this knowledge can ever be obtained, is for a sufficient number of gentlemen who have talents, leisure, and means, to unite their mutual efforts, and by thorough and patient perseverance, there can be no doubt but they would gain the knowledge necessary, and thereby effect that which no individual, or small number of individuals, could ever accomplish. It should be undertaken by persons who have perfect leisure, and who have sagacity and science to pursue it scientifically. Whoever can effect this, will do the human family more good than was ever done before by effecting any one object.

S. B.

* I do not recollect any case of men acting in an associated capacity against insects, except the famous story told by Peter Pindar, about the grasshoppers, at some place in France, I think Navarre, where, when they appear, ecclesiastical process is issued against them, and they are subjected to a trial, and are allowed counsel. But it so happens that the grasshoppers are always beaten, and have to suffer the horrors of excommunication, and are ordered to quit France in three days on pain of death if they are caught afterwards.

Extract of a letter from a gentleman in Jicaltepec, Mexico, addressed to Wm. Prince and Sons, of Flushing.

Jicaltepec, July 27, 1834.

MY DEAR SIR: I have at length arrived at the place of my destination, the French Colony of Jicaltepec, under the direction of the Franco-Mexican Company. We had a tedious voyage, having arrived at Vera Cruz on the 3d inst. After many inevitable delays, I was at last able to set out on my journey hither. As far as Jalapa, capital of the state of Vera Cruz, the roads were passable, and we travelled in a stage coach, manufactured at Troy. But at Jalapa, being obliged to quit the grand route, my way lay across the vast mountains which separate the table land of Mexico from the sea coast. Jalapa itself is about 11,000 feet above the level of the sea; about thirty miles distant from this city is the Peak of Orizaba, a most picturesque summit, covered with eternal snow. It is a beautiful sight to view this mountain in the morning at sunrise, and to watch the first beams gilding the snow, which flash and sparkle as with lightning. After leaving Jalapa the roads across the mountains are horrible; sometimes on the very crest of a ridge of which both sides are precipices, nearly perpendicular, to the depth of several hundred feet, the crest itself from 6 to 10 feet wide, and the path in the middle. This was not very comfortable travelling for one who never travelled ten miles on horseback in his life before. Imagine your humble servant perched on the back of a mule, on the top of a huge Spanish saddle, made of very hard wood, and covered with leather somewhat harder, (it is no joke, I assure you,) his feet covered up in a pair of enormous wooden stirrups, and then consider that I had to travel three days in this manner, sleeping at night in an Indian cabin of bamboos, surrounded by women and children and savages. However, I was well pleased on the whole, as I had an opportunity of seeing more of the country than I would otherwise have seen; and especially the vegetation of these vast mountains. They are not barren rocks; even the most precipitous descents are shaggy with vegetation. The most superb plants run wild in strange profusion over these tremendous mountains. I cannot give you an idea of the luxuriance of these plants of cactea by hundreds and thousands, with trunks as thick as a man's body; yuccas the same; palm trees loaded with fruit; alpinias, hedychiums, heliconias, plumiera, jasminum, &c. &c. and above all the epiphytic plants, tillandsias, orchideæ, ferns, pothos, even cacteæ, cover the limbs and trunks of all the large trees by thousands. Some of the terrestrial ferns assume the form of trees as much as twenty feet high—they are superb, several other species of ferns are twining plants, and ascend with their elegant foliage to the tops of the neighboring plants. The large "monstrous parasite," which I marked pothos, is really a parasite and a pothos—the flower is large, white and purple; but in order to judge of its beauty, you must see it, as I have, ascending from the earth to the top of large trees, eighty feet high, and, at every branch or knot, throwing out clusters of leaves, each of which would measure two or three feet long without the petiole: it is a beautiful plant.

Sing Sing, August 8, 1835.

To the Editor of the New-York Farmer:

SIR—The enterprize of our farmers and mechanics in this neighborhood, I think well deserving of notice in your very useful and excellent paper. You will, therefore, not deem me impertinent or troublesome, in calling the attention of your readers to what is doing in our flourishing and beautiful village. Perhaps in point of health, elegance, variety of scenery, and extent of prospect, there is no place on the banks of the Hudson by which it is surpassed, and we are of opinion there is none that ought to be considered its equal—and if it has been behind any of its sister villages in the enterprize of its inhabitants, that time we trust has passed, and a new era has commenced in its history. Its schools and academies can compare with the most thriving and successful in our State; its mercantile operations are considerable, and increasing, and the mechanic arts have received an impetus never felt before. The number of houses that have been built, and are now being erected here, is matter of astonishment to the inhabitants themselves, although they are unequal to the demand made for them, or the accommodation of applicants. In the short space too of — weeks, a new and elegant steamboat called the Mount Pleasant, in honor of the place, has been built here, and is now preparing to ply between this place and the city, in addition to the one that is already on this route.

This boat is designed as a passage and freight boat, and has been planned and built by and at the expense chiefly of our mechanics and farmers. The design and execution, too, are such as would do credit to the heads or hands of those who, with greater pretensions to, have less of real worth.

She has been constructed of the best materials, under the eye of an experienced and judicious artist, (Capt. Isaac C. Smith, who is also a skilful sailor,) and we trust will answer the expectations that are justly entertained of her; her model is beautiful, and her accommodations ample, and we doubt not in point of speed and comfort she will compete with any boat on our waters. She will be completed in the course of the following week, but will not commence her regular trips until the 8th of next month. In the mean time she will run for the accommodation of parties of pleasure, and of the public, as may be judged most expedient by her directors. She is a boat well deserving of patronage, whether we consider her owners, her object, or her execution, and we trust that farmers and mechanics especially will give her their influence and support. A.

This communication, together with another, from an esteemed correspondent, both received in time, was by *some* means mislaid at the *proper* period for publication; they are both from practical men, and of much consequence to other practical men, although somewhat out of season for *this* year, to be omitted entirely—and we therefore give them now, trusting to the good memory of those who may be benefitted by them to apply them next year.

East Lyme, Giant's Neck, April, 1835.

To the Editor of the New-York Farmer:

Sir,—Living retired in a dark corner of the world, I have seen your paper the last winter, and find many valuable rules in farming in your paper; I will give you a plan of planting potatoes. If you think it worth publishing, I have no objection.

The first thing get your ground well prepared by ploughing, it should be mellow and soft, I think twice ploughing preferable. Then spread your manure on the furrows from ten to twenty or thirty loads to the acre, just as you have it to spare, then take a large iron tooth harrow, and harrow the manure well into the ground as well as possible; then furrow your ground with an old fashion Dutch plough, if you have one without any share, just to make a mark, say two inches deep. I prefer large potatoes for planting, they should be cut into two or three pieces, calculating to have three good eyes on a piece, plant one piece in a hill, calculating to have your rows two and a half feet apart, and eighteen inches between hills.

The reason I have for cutting potatoes is this, a small or middling size potatoe has, many times, as many eyes as a large one. Therefore when you plant them, you have too many shoots in a hill, and these increase your number of potatoes, and not the quantity, but rather diminish the quantity; in planting the large ones cut, you have a greater quantity, and better quality, they are more sizeable or larger. Potatoes are much better to grow top of the ground, they produce better, the quality is better, and much less labor to raise them; potatoes should have a sharp peaked hill, when you hill them up the last time. The plan is simple, I recommend farmers to try it. Respectfully yours,

G.

SPAIN'S PATENT CHURN.—I have had in use this churn for about two months. It is the invention of Mr. Spain of Philadelphia—has some resemblance to a barrel—performs by a crank—and is made in the most substantial manner. Over the common churn it has the advantages of preventing waste, and of rendering the labor of churning less fatiguing. The frame on which it stands can be of any height, permitting the one who churns either to sit or stand. There are five sizes, in price from $3·50 to $7. They can be seen at the seed store 102 Barclay street. S. F.

August 13, 1835.

ELDER BERRIES.—Independent of their use for wine, they make quite an acceptable preparation at tea. Water and sugar are applied to the berries, and the pitcher containing them put into boiling water, or they are stewed like currants. Spice of any kind improves them. These berries are gently aperient. L. T.

YOUNG PARSNIPS.—These, when about the size of the finger and less, make an excellent dish. They are boiled, and served with butter; or they are made into a batter and fried. L. T.

NEW-YORK FARMER.

SEPTEMBER 1, 1835.

We copy the following paragraph from a Baltimore paper:

"The last Miners' Journal says:—'The Baltimore *Farmer and Gardener* is decidedly the best agricultural paper we have ever seen.'"

No one, we presume, would detract from the merits of the Baltimore "*Farmer and Gardener.*" It is beyond all question a *good* and valuable work—and may be the best that the Editor of the "Miners' Journal ever saw"—yet we are very much inclined to the opinion that the Minor's Journal,—"*Farmer and Gardener's Magazine,*" we mean—is in *every* respect equal to that of which the Miners' Journal speaks so favorably — and that the Editor of the Miners' Journal may also be able to judge for himself, in the matter, we will send him a volume complete of the Minor's "*New-York Farmer and Gardener's Magazine,*" doubting not that the Editor aforesaid will deal justly by *all* men, who labor in that best of all causes, the improvement of the agriculture of the country, and, at the same time, the happiness of mankind.—[Editor of Minor's Farmer and Gardener's Magazine.]

[From the Tennessee Farmer.]

SAVING CLOVER SEED.—The two great objects to be attended to, in raising clover seed with profit, are—first, to secure the production of as large a crop to the acre as practicable—and secondly, to harvest the crop in such a manner as to bring as large a portion of the seed into the barn and to leave as small a portion of it as possible in the field.

To attain the first object, that of securing a large product, we have in our preceding numbers, in observations on the culture of clover, given the necessary directions, we will now only repeat, that the main things to be attended to are the following:—1st, That the land be fertile. 2d, That it be well prepared before sowing the seed, as heretofore directed. 3d, That a sufficient quantity of seed be sown to the acre. 4th, That it be evenly distributed over the ground. 5th, That whenever the land requires its aid, gypsum or plaster be sown on the clover. And 6th, That it be not injured by injudicious or excessive grazing. If these particulars be well attended to, an acre of ordinary land will produce three bushels of seed in a common season, often more.

We now come to speak of the more difficult and laborious operation of safely and economically harvesting and securing it. This requires care and attention. The great objects to be aimed at are, to cut the seed at the period when there is the largest portion of ripe seed on the ground, in that stage of maturity which will admit of its being collected into the barn, and so to handle it as to prevent the seed from being shattered off and left on the field, while straw or haulm only is collected in the barn. It is, we believe, to the improvident and ruinous neglect of strict attention to these two latter objects, that most farmers may attribute their failure in making clover seed. We will lay before our readers the results of our own observation and experience on these important points, hoping that those of our patrons, who may have discovered a better mode of effecting these objects than the one recommended, will yet communicate to us their practice in time to enable us to lay it before the public in our next number.

Time of Cutting.—As the clover seed, from the time the first heads ripen, until the close of the season, are daily arriving at maturity, the great desideratum is to ascertain the precise period when there is on the ground the greatest portion of ripe seed in a state which will admit of its being collected and brought into the barn. If the clover be cut before this period, there must evidently be a loss sustained, from the immaturity of too large a portion of the seed. If the cutting be deferred beyond this period, an equal, and perhaps a greater loss, will be sustained, from the impossibility of saving the seed first ripened, generally the best, on account of its being so easily shattered off. We would recommend, as the most eligible time for cutting, the period when about two thirds of the heads have become ripe and assumed a black color, many of the others, at this time of a brown color, will ripen after cutting.

Mode of Cutting.—Where the clover has not lodged, and is high enough to admit of it, by far the most expeditious, and in every point of view the most eligible mode of cutting, is to cradle it as we do grain, only throwing it into double swarths, that is laying the clover cut from two lands in one swarth. If the grass be so short as to require it, a strip of linen may be fastened on the fingers of the cradle so as to prevent the heads falling through them.

Mode of Curing.—If this crop be not heavy and the weather be good, the swarths may lie undisturbed for several days, until the hay be perfectly cured; it should then, in the morning or evening, while sufficiently moist from the dew, to prevent its shattering off too easily, be gently raked into small bunches, such as can be conveniently raised with a fork and laid on the wagon. When not too damp, these bunches should be hauled to the barn, and either stowed away in mows, or, which is best, threshed off, and either immediately cleaned, or else the heads stowed away in a room prepared for the purpose until winter, to be then threshed or trodden out. But should there be rain on them, or should they be suffered to remain in the field any considerable length of time after being raked up, these bunches must with a fork be gently turned bottom upwards, and laid in a new place, after every rain to which they may be exposed, and after every two or three days they may have lain in the field in fair weather. This is necessary to prevent the seed from being injured by the heat and moisture to which they will have been exposed, from the sun, the rain, and the moisture of the earth. After being sufficiently cured, while dry, let the seed be gently laid on the wagon or sled, and hauled to the barn, using every necessary precaution to ensure that as little of it as possible be left in the field or scattered along the road.

Mode of Cleaning.—Various methods

are practised for cleaning the seed from the chaff. The only two as far we know used in this country, are treading it out with horses, or cleaning it in a threshing machine: the first is tedious, laborious, filthy and unwholesome, both to man and beast, the latter is far preferable in every respect, but as all are not provided with threshing machines, and as therefore many must still continue to tread out their seed, we will submit a few observations on the mode of performing this operation. Having covered the barn floor with seed in the chaff to the depth of from 12 to 18 inches, put on the horses and tread one day, the next morning run the chaff through a fan, much of it will have been beaten to dust and will be blown away, as will also the light chaff having no seed, and that from which the seed has been separated, but much the larger portion of the seed, still enveloped in the chaff, will be found in the rear of the fan; this, having been separated from the empty chaff adjoining it, must be again spread on the floor, and having added another portion of untrodden chaff, the horses must be again put on and made to tread it another day, when it should be again run through the fan as before; the produce of this will far exceed that of the first day's treading, but still much good seed will be found immediately in the rear of the fan not yet separated from the chaff—this must be again spread on the floor, and a new addition be made of untrodden chaff, and this process must be repeated until the whole crop is trodden out. The seed, after passing through the fan, should first be run through a sieve, sufficiently coarse to permit the clover seed to pass through, but retaining all larger seeds and trash. It should then be again run through a finer sieve, retaining the clover seed, but permitting the passage through of all smaller substances; by these two processes, the clover seed will be thoroughly cleansed from all kinds of filth and prepared for market. The only advantages derived from cleaning the seed rather than sowing it in the chaff, are the ascertaining with greater certainty the quantity sown and the ensuring a more equal distribution of the seed—where, therefore, a sufficient quantity can be afforded to ensure the desired thickness in every part of the ground, sowing in the chaff will not only do as well, but is to be preferred, as it is believed more likely to come up and to stand.

In reply to our correspondent's 3d query, as to the time of ploughing under clover for wheat, we would recommend that it be done so soon as a considerable portion of the seed has become ripe—the wheat should then be sown and well harrowed in, but the land should by no means be again ploughed, until the wheat has been taken off.

As to briars and sedge grass, we refer our subscriber to what we have said in former numbers, and in the present—the sedge grass he will find easily subdued, if the ground be ploughed and harrowed in the winter; pasturing and deep ploughing are the only effectual modes we have tried for extirpating briars and sprouts, we have much confidence however in the efficacy of the mode described in the receipt published in this number.

Harmon's threshing machine will thresh out, if properly attended to, from five to ten bushels of clover seed, and from 150 to 200 bushels of wheat per day. This machine will cost about fifty dollars, exclusive of the house and millwright's work; this is the only machine for cleaning clover seed used in this part of the country—of which we are apprised; we have used it for two years past with great advantage, especially in cleaning clover seed.

[From Hovey's Gardener's Magazine.]

Notices of some of the Gardens and Nurseries in the Neighborhood of New-York and Philadelphia; taken from Memoranda made in the Month of March last. By C. M. H. [Continued from page 246.]

The Establishment of Mr. G. C. Thorburn, Seedsman and Florist, in Liberty street, (formerly the property of our excellent correspondent, now of Hallet's Cove.) demands mention for its judicious and tasteful arrangement, and for the fine variety of plants it contains. Although not so much attention may be given to their growth, as in nurseries where the cultivation of plants is the sole business of the proprietor, still they have the appearance of strength and health, and well fitted for exportation to various parts of the country.

It is now upwards of thirty years since our correspondent, Grant Thorburn, Esq., first commenced the business of a seedsman in New-York. After a series of years of toil and labor, in endeavoring to establish himself and his business in the confidence of the public, he was subjected to the great loss of nearly all his property, which was destroyed by fire. A few years afterwards he was also nearly ruined by his attempting to raise seeds, which could not be imported, in consequence of the late war. This expensive method of procuring seeds in this country, with the little knowledge of their growth at that time, could not otherwise than prove an unprofitable and fruitless attempt; he however again resumed his former business, and by the help of friends was enabled to establish the foundation of what the establishment now is. Mr. Thorburn's sons were, a few years since, connected with him in the business; one of them left, and it was carried on by himself and eldest son. Mr. Thorburn has lately retired from the business altogether, and given it up to his son, Mr. G. C. Thorburn, who now conducts the whole.

We have been thus particular in mentioning these facts, although they may be already well known to most of our readers, for many reasons; the first of which is, that we cannot but think the establishment of such a place, in the very centre of so large and populous a city as New-York, and at a time when gardening was little known, has been of exceedingly great importance in spreading, and much more extensively diffusing, a general taste for floricultural pursuits. The nursery of the Messrs. Prince, on Long Island, and of others in Philadelphia, date their origin at a much earlier day, but they are not situated where the public could have that easy access to them that they have had at this place. We have no hesitation in saying, that this establishment has tended as much toward the dissemination of a taste for gardening pursuits, as any nursery or garden in our country. Who has not noticed Lawrie Todd, as our correspondent still styles himself, in the various papers and periodicals of which he is a frequent contributor? Who has not listened to his oft-told story of his first landing upon the shores of our country—of his future success—of his great, if it cannot be called lucky, success in acquiring a competent fortune; few indeed there are, especially those interested in Horticulture, who have visited, or passed through New-York, who have not availed themselves of the opportunity of walking through the establishment of the Messrs. Thorburn.

This place, as most of our readers are probably aware, has lately been sold for an immense sum of money, realizing almost a fortune to its former owner. It is soon to be razed to the ground, and the place, which has long been the resort of the horticulturist and the florist—where for many years the gorgeous tulip has arrayed itself, and the hyacinth given out its fragrant odor, where the dahlia, the pride of the autumn, has reared its magnificent head, and where even winter appeared with not half its rigors, by the continuous bloom of the snowy white Camellia, through the dreary weather,—is to be built up with blocks of stores or dwellings. The value of land in New-York will soon cause every garden, as it has nearly already, to be removed without the city.

In the green-house we did not find many flowers in bloom; here, as well as at Mr. Hogg's, an immense number of bouquets of flowers are cut throughout the winter, and more particularly in the months of February and March. We saw, however, in flower, Amaryllis formosissima and some other species. Camellia japonica, var. imbricata, was splendidly in flower: we believe this was the only place where we observed it in bloom during our visit. It has since flowered at Col. Perkins', in Brookline, and also in our garden. It is one of the finest of Camellias; it is figured in Chandler's illustrations of the Camellia, and in the Botanical Register; in the former, the flower is represented of a deep crimson color, and is stated as occasionally being striped with white; in the latter, it is striped or edged with white, exactly the same as the three different plants which we have had the opportunity of seeing. It is rather singular that it should have been described as being of a deep crimson color: the plant at Col. Perkins' had several flowers upon it, all of which were nearly alike. Here were also fine large plants of C. variegata, C. incarnata, and others with several flowers expanded. Mr. Thorburn's stock of camellias is large, and contains a fine variety; we noticed among the rest, colvillii, reticulata, eximia, &c. Here were some fine plants of Magnolia grandiflora raised from seed; Pandanus (sp.?) and large American aloes. Mr. Thorburn, sen., when he was last in England, brought home several vases, which, in March last, ornamented the green-house. Two plants of Ardisia co-

lorata, were growing in two of them; the largest plant of the Indian rubber tree (Ficus elastica) we have ever seen, was growing at this place. It is a most admirable plant, and few are aware of its great beauty when plunged out in the border, or if large plants, placed in vases, and set upon the lawn, or among the shrubbery of the flower garden; its large, strong, thick, fleshy, and deep-green leaves, have a noble appearance; it is also a fine ornament to the green-house or conservatory. Pæonia moutan, var. Banksia, was in flower, with several blossoms expanded; several pots of lachenalias, and hyacinths were in full bloom. We here observed several plants, of a species of beet, which are grown for the beauty of their leaves and footstalks, some of which are of a bright yellow, and others of a deep crimson. Many other plants we noted down, but as they were not in flower, our enumeration of them would not be of interest to our readers. We have lately understood that Mr. G. C. Thorburn intends removing early in the fall; to what place we are not informed.*

NURSERY OF MESSRS. SHAW & THORBURN, HALLET'S COVE, LONG ISLAND.—This nursery has been established within a few years. It is about twenty acres in extent, and situated near the landing of the ferry at Hell-Gate; the distance, we believe, of about five or six miles from the city. It was first established under the direction of Mr. John Thorburn, who erected a large and extensive green-house, and also one or two smaller ones, for the forcing of flowers for the purpose of cutting bouquets during winter, with which he supplied (and still continues to) his brother in New-York. About a year since, Mr. Shaw, formerly of the old Botanic Garden, was taken in a partner, and the business is now conducted in their name.

Their collection of plants is quite large, and embraces many fine and choice kinds. In camellias and geraniums they are very rich; they have, also, a fine collection of amaryllises, including many of the seedlings raised at Colvills'. Among the camellias we saw in flower, varieties florida, coccinea, (Alnuts splendens,) variegata, Woodsii, incarnata alba plena, compacta, anemoneflora alba, and a kind supposed concinna; the latter was extremely beautiful; but the label having been lost, or accidently exchanged, it was misnamed. There was here a good stock of rhododendrons and azaleas of the newer kinds, including the R. altaclerence, morterii, Russellianum, &c. The green-house is divided by a glass partition, and one part is kept at a considerable higher temperature than the other, answering the purpose of a hot-house or stove. In this we observed that curious and singularly beautiful plant the Canary bird flower, (Tropæolum peregrinum,) covered with its copious wreaths of flowers; this plant, like many other twiners or climbers, is remarkable for the footstalks of its leaves, answering the purpose of tendrils; it quickly attaches itself to any thing in its way, and often attains to a great height: we should think that this plant extended several feet, and had open several hundred flowers. We mentioned this plant not long since (204) as being in bloom in Mr. R. Buist's, Philadelphia. We then gave it the specific name of pentaphyllum, with some observations on a new genus, &c. We wrote from memory without any reference, and inadvertently fell into this error: it will be found corrected in the present number, in our notices of new plants. We again state that it is easily propagated from cuttings or seeds, and that it is deserving a place in every green-house. Among the amaryllises we observed in flower Johnsonia, venusta, and several other equally beautiful kinds. Here was a good stock of the cacti, and we noticed a plant of C. mallisoni, a splendid new hybrid. We observed many other fine things in the stove compartment, but want of time prevented our making a memorandum of them.

In a small pit or green-house adjoining the larger one, we observed a large number of roses, and flowers in bloom, for cuttings for bouquets. In this were placed several camellias which had been budded the preceding fall, and had taken well. The method of budding was different from that in general use: the bud is prepared by taking off a piece of the bark with the bud attached, cutting it exactly of the same size as the piece taken out of the stock, in order that the edges may meet as close as possible. The size of the bud will vary according to the strength of the wood; but in general it should be about half or five-eighths of an inch in length, and one or two eighths in breadth: the whole should be covered with grafting wax, as bass matting alone will not keep the air from the bud. This method answers very well for increasing the camellia, the wood of which is so hard, that the old method of inserting the bud under the bark cannot be performed with much certainty. We here observed Erica baccans, with its elegant tufted heads of rosy-colored flowers, in full bloom; the common Kerria japonica was flowering, trained to the back wall. Lupinus mutabilis, that new splendid annual, was throwing up spikes of flowers; the plants were taken from the flower border, and placed in pots, early in the fall, our summers being scarcely long enough for it to open its flower buds in the open air; its changeable flowers are extremely showy. There was also here a fine stock of that gem of the garden we have so frequently noticed, the Petunia phœnicea. Messrs. Shaw & Thorburn's gardener appeared very industrious and well informed, and the plants under his care looked exceedingly well.

LINNÆAN BOTANIC GARDEN AND NURSERY, LONG ISLAND: WILLIAM PRINCE & SONS, Proprietors.—This extensively known establishment, though the last named in our remarks, will not by any means be considered the least in its character. It is one of the oldest nurseries in the country, and also one of the most extensive, if not the very largest. It was established by the father of one of the present proprietors, and has become a family inheritance. When we take into consideration all that has been said in regard to this place, either by the proprietors themselves, or by the persons who have frequently visited it, among whom have been some very intelligent and able gardeners, who have visited this country, we feel ourselves almost incompetent to speak of the establishment, for fear that in our impartiality we might not be thought to do justice, by the proprietors, or be said to give too much praise by others. Much has been written in relation to it in Loudon's Magazine; and for a time, several communications appeared under various signatures, in regard to its extent and the variety of plants it contained.

We stated, when we commenced our remarks, that we should confine them chiefly to the appearance of plants in the green-houses, hot-houses, &c. We shall not at this time say any thing as regards the extent of this nursery, the variety of hardy plants it contains, or of its immense number of correspondents, agents, &c. We hope at another opportunity to do this, and to do it with justice and candor; we passed an hour or two in walking through it in the fall of 1831, but it is, we have understood, much improved since then; we know that the Messrs. Prince are too liberal not to give every indulgence for our statements. Mr. W. R. Prince informed us, the past spring, that as soon as circumstances would permit, he intended visiting England, and the Continent, partly with a view of becoming more acquainted with horticulture, and for the purpose of noticing the extent and variety of plants contained in their gardens and nurseries. He kindly promised to contribute to our pages, and our readers will, we have no doubt, be gratified with his remarks. The Messrs. Prince have lately added to their business as nurserymen, that of the seedsman, and are dealing largely in seeds.

The extent of glass, including the conservatory, green-houses, hot-house, frames, &c., we should judge to be upwards of four hundred feet in length. One of the houses, in which are kept the orange and lemon trees, is built in the old style, with large upright front sashes, and a dark roof. The collection of oranges and lemons is very large, and includes many more distinct varieties than any other we have ever observed; in their catalogue they enumerate upwards of seventy kinds; they are well grown, and many of them beautiful shaped plants. We saw an immense number of seedlings intended for stocks, to bud, or inarch upon. Messrs. Prince have been at great expense to procure from the Italian nurseries, which excel in this grand fruit, nearly all that are worthy of cultivation. Here we also noticed a fine stock of the different varieties of the magnolia, of which there is a large number of kinds, including the M. Soulangiana. Hundreds of plants of the

* He has removed to John st., near Broadway.

Gardenia florida and G. radicans; of the different species and varieties of myrtles, a good stock.

It cannot be expected that in an extensive establishment like this, there would be many flowers in bloom. In the greenhouse, however, which adjoins the orangery, we saw one of the finest specimens of Acacia verticillata, profusely covered with its showy blossoms; Metrosideros lanceolata, and some species of Banksia, of which there were many plants, were also in flower; that much sought-after plant, the Epacris grandiflora, with its exquisite tubulous, rosy white blossoms, was in full bloom. Here was a fine collection of geraniums and a good variety of Ericas, though small plants. In the hot-house, which adjoins the greenhouse, and completes one range, we noticed several beautiful ferns. A good stock of that magnificent bulb, the Crinum amabile; some kæmpferias, dracænas, &c., young plants of the banana (Musa sapientum), several species of the cacti. In the Camellia house, not more than five or six plants were in flower; among them, however, was the C. althæflora, with several blossoms expanded; it is a brilliant kind, raised by the Messrs. Chandler, about the same time of the corallina, with which it is nearly equal in beauty; the others were the common varieties. The stock of camellias is probably the largest in the country, and includes the most rare. The reason why more camellias were not in flower, was from the cause that the shutters on the glass were not taken off for several days together, and the house kept as cool as possible, without endangering frost.

From the Camellia house, we entered another green-house filled with a variety of plants: myrtles, eugenias, azaleas, and a good stock of other kinds, which we do not recollect the names of. A few camellias which were placed here were in bloom, among which was the C. Woodsii, maliflora, and others; several species of brunia were prettily in flower. We were particularly struck by observing the very large number of some kinds of plants which the Messrs. Prince have in their collection, and we could enumerate many varieties; but they would not perhaps interest our readers, as most of them may be found in their catalogue.

In the frames, of which there were several, we found a good stock of Chinese roses, seedling magnolias, rhododendrons, and other plants. There was also a number of hardy shrubs and plants, which were laid in for executing orders to the south during winter, when they could not be taken from the open ground. When we visited this place a year before, we think the green-house plants, generally, looked in rather better health than they did the past spring; the gardener was at the former time repotting the whole of the camellias, and many other plants which had suffered from the want of it. Mr. Prince, Jr., informed us, upon our mentioning to him this fact, that their former gardener was very intelligent and well acquainted with his profession, but that he had left them; and they had not yet procured another, as they expected one from England. We wonder at the good order which already exists, when we consider the multiplicity of avocations which must ensue, from the nursery and seed business combined.

We have thus completed our remarks, which have extended to a greater length than we at first anticipated, and perhaps farther than has been interesting to all our readers. Some would, probably, have rather read practical communications on the management and growth of plants, or the treatment of some objects of more utility; while others have been gratified in reading the advancement made in Horticulture and Floriculture by their neighbors. The object of a periodical Magazine is not to detail practices already well known, and laid down in works devoted to the subject of which it treats; but rather to give information of all new discoveries, and to record every improvement which may be found useful and advantageous to the scientific or practical gardener. These at first, however trifling they may often seem, when fully proved by repeated experiments, and correct observation, result in the foundation of some methods much more valuable, and of more immediate utility, than those previously adopted. The knowledge of gardening, like every other art, can only be advanced to any degree by calling in the assistance, and bringing to bear upon it those others, which enlighten, and throw some information upon its various branches. We therefore think, that those persons who suppose that mere practical papers are all that should fill the pages of a Magazine, take altogether a narrow and quite unconfined view of the subject; and that they have not yet made that progress in Horticulture, that enables them to see that its thorough knowledge, and proper application, is only to be obtained by acquiring some information of those sciences, without which it would be a tedious and uninteresting study, rather than one of the most pleasing and agreeable.

These observations are not made on the supposition that any such objections have, or will be heard; but to show how far we think a Magazine should extend its character. As regards the visiting of gardens and nurseries, we cannot here omit to urge upon every amateur, or lover of Horticulture, and more particularly every practical gardener, the importance resulting from such a course; not only should those in the vicinity of their situation be often inspected, but a tour should be made every few years to all those within the middle and northern sections of our country. To be confined to one spot, and to know nothing, but what may be learned from reading of what is done at other places, deprives one of all ambition, or of any desire to excel in his profession. An amateur gardener may imagine that he excels in the cultivation of a certain class of plants, and makes no effort to attain a greater degree of perfection; but when he sees that another equals, his ambition is touched, and he is stimulated to greater exertion. It is from seeing and comparing, that we know our faults and learn how to improve and correct them.

We now take leave of our readers, with the anticipation, that, if our remarks have proved as interesting as other portions of our original contributions, we shall have the pleasure, at some future time, of giving some information of other establishments, which it would do credit for our country to possess, if it were many more years advanced in the science of Horticulture, or Landscape Gardening.

[From late English papers.]

The subject of exportation of flour from this country to America, in consequence of its high price in the United States, and the low value it realizes here, has excited some interest at Liverpool.

Silk Culture.—A company has been formed in Norwich for rearing silkworms. They are possessed of 120,000 of these valuable insects, in a most healthy state, and have planted 1,000 mulberry trees for future provisions. In the meantime contributions of mulberry leaves have been liberally afforded by many gentlemen who are desirous of encouraging the undertaking.

American Aloe.—One of those sights which are said to occur but once in a century, the blooming of the American aloe, will shortly take place in a specimen of the variegated variety at the Surrey Zoological Gardens. It is believed to be about seventy years old; the crown of the plant opened on the eighth of June, and the flower-stem has been growing at the rate of about four inches a day; it is calculated by gardeners that it will reach to the height of from 24 to 28 feet, that the number of flower-buds will be from three to four thousand, and that it will continue flowering nearly six weeks. The period at which the agave arrives at maturity varies according to circumstances; in hot, or otherwise favorable climates, it grows rapidly, but in milder regions, or under the care of the gardener, it requires the longest period that has been assigned to it, which has given rise to the popular error, that the flowering occurs only once at the end of one hundred years.

Natural History.—M. Dussumier, a merchant at Bourdeaux, has presented to the Garden of Plants several living animals of great rarity, among which are the dizigguetai, or humione, the wild horse from the centre of Asia, which has never before been seen in France; the ours jongleur, an Indian boar, a sheep of the pure Asiatic breed, a stag, from the Axis, and several apes and monkeys. —[Paris Advertiser.]

Method of building Chimneys that will not smoke.—Contract the space immediately over the fire so you may be sure of the air being well heated *there*: this will ensure a current upwards. All chimneys should be carefully built, and every joint well filled with mortar, so as to prevent communication in case of fire.—[Dr. T. Cooper.]

New Method of measuring Distance.—An ingenious artist has invented an instrument termed a Distance Register, capable of being applied to two and four wheel carriages of every description, for the purpose of ascertaining the ground gone over by such carriages in any given space of time, from one minute to the whole day, and which may be employed with equal efficiency in reckoning the course of either steam or sailing vessels.

Steam Carriages.—A new steam carriage was recently tried, setting out from Westminster bridge and returning thither, after visiting Denmark Hill and Dulwich. The distance, twelve miles, was performed in 41 minutes.

Patent Laws.—Lord Brougham brought in a bill to alter and amend the law of patents. The objects intended were generally to facilitate the obtaining of patents, and to secure the enjoyment of them to the inventors.

WHAT A FARMER WANTS.

The Farmer wants a stable mind,
A purpose sure and steady,
To patient industry inclined—
For business always ready.

Good careful habits well infixed,
And judgment acting clearly,
To sift out truths with error mixed,
Though it should cost him dearly.

He wants a neat and prudent wife,
Who, when he earns, can save it;
Who kindly soothes the care of life,
(Best gift of him who gave it.)

He wants a snug and tidy farm,
And health and strength together;
A house and barn, to keep all warm
In cold or rainy weather.

Heaven's blessing then must crown the whole,
Or all his hopes are blasted;
But with this resting on his soul,
The purest joys are tasted.

He then enjoys a bliss, unknown
To those the world calls greatest;
Known only to the good alone,
The earliest and the latest.

[From the New-England Farmer.]

SELECTION OF SEEDS PREVENT THE DEGENERACY OF VEGETABLE PRODUCTIONS.—Mr. Editor: An opinion prevails to some extent among some of my acquaintance, that *all* kinds of agricultural and horticultural seeds are apt to degenerate if they continue to grow from the same original stalk in any one neighborhood; and that in order to secure good crops of corn, potatoes, and other valuable products of the field and garden, it is necessary to obtain seed which grew at a great distance from the place where the seed is to be planted. Some of these persons suppose that if farmer A., living in C., exchanges his seeds with farmer B., living in D., at the distance of one hundred miles from each other, that the exchange will always be mutually beneficial, and will ensure an *increase* of crops to both.

I could relate to you a number of experiments which demonstrate the fallacy of such a doctrine.

A few years ago I planted turnip seed, which was obtained by selecting the best roots from a very fine crop of turnips, and growing seed from *them*. The seed from these selected turnips was planted within a few rods of the place where the seed, and the turnips which made the seed, had grown, and this seed produced a fine crop. But not having seed enough, I procured some turnip seed from abroad, and planted it in the same manner by the side of the other. When the crop was matured, it was seen that the seed which was obtained from a distance produced a crop not more than one fourth part as large as that which was grown near the spot where it was planted, and while the latter was remarkably smooth, fair, handsome, and excellent in quality, the crop produced from seed obtained at a distance was rough, and poorer in quality, in about the same proportion that it was smaller in quantity.

About the same time, I made a similar experiment with *carrot* seeds, and the result was very similar to the experiment with turnips which I have just related.

But as *potatoes* are thought by some to be peculiarly apt to degenerate, and as it is not easy for every man to make experiments which require more than thirty years for their completion, I send you the following, which you are at liberty to give to the public, through the medium of your useful paper, if you think the narration worth publishing.

When I was a lad, 16 years of age, my father obtained a kind of round yellowish potatoes, which was new in the neighborhood, and was thought at that time to be a superior kind. He planted them, and was much pleased with the result. He had a larger crop than he had ever obtained before, on the same quantity of ground, since my remembrance. He continued to cultivate the same kind of potatoes, for more than 20 years, on the same farm, and they still retained their excellence.

After I became the head of a family, and after my father had cultivated the kind of potatoes of which I am writing for about fourteen years, I obtained seed from him, and have continued the cultivation of them for sixteen years more, from the same original stock which my father obtained when I was sixteen years old.

Thus it will be seen, that the 16 years which *I* have cultivated them, added to the 14 years which *my father* cultivated them, before I obtained the seed from *him*, make a period of 30 years, which *we* have continued the cultivation of the same kind of potatoes, from the same original stock.

I have ever been careful to select the *best* part of my crop for seed, and so far from degenerating, or *running out* as it is termed, some of my last crops have been *handsomer* and *better* than I have ever seen of the kind before.

Respectfully yours,
ASA M. HOLT.

East Haddam, Conn., August 7, 1835.

By the Editor.—The above is from a very respectable medical gentleman, from whom future favors of a similar nature are respectfully solicited. We have frequently endeavored to impress on our readers the importance of selecting the best seeds, roots, &c., for the purpose of raising new crops of the same sorts of vegetables; and it is also the opinion of practical as well as scientific cultivators, that it is, generally, better to propagate from the best which a farmer has himself proved and improved than to make hap-hazard exchanges with his brethren at a distance. The rule is, or should be, to raise the best you can, and propagate from the best you raise. But examples are better than precepts, and those of Dr. Holt are very pertinent and instructive.

COAL ASHES.—The United States Gazette communicates the result of an experiment at West Chester with coal ashes as a manure, which produced a fine crop of clover, and the New-York Courier and Enquirer copies the article with congratulatory expressions at the discovery by which the streets will be cleared of a nuisance. We have no doubt that coal ashes will be found a valuable manure, perhaps, when the experiment shall be properly made, equal to lime itself. We have witnessed in several instances the successful result of the use of coal ashes similar to that abovementioned. An article which affords the finest fuel for domestic and manufacturing purposes, the residuum of which presents a valuable manure, and which also may even be manufactured into useful and ornamental ware, cannot but be held of first rate importance in the economy of life.

QUERIES AND ANSWERS.—"I have heard it asserted, that rye grown in an orchard will certainly destroy it. By publishing your opinion on the subject, you may perhaps give important information to others as well as myself.—B. Bucks Co., Pa.

Answer.—We have had no practical experience on this matter, nor have we seen the fact before stated. We should infer, that in sowing rye among apple trees, the grain, rather than the trees, would be most likely to suffer.

Our Bucks co. correspondent adds, "I had an ox in the fall affected with a disease very much resembling the cholera in the human species. I gave him linseed oil and glauber salts through the day, but without any good effect. By evening he became so weak, and appeared to have so much pain, that he could no longer get up. I then gave him about half a pint of strongly camphorated whiskey, and left him for the night. The next morning he was well, with the exception of weakness, and soon recovered."

Bee-House.—"I wish you would describe the inside fixtures of your bee-house. Is there staging all round to support the comb? and is the box in which the bees are when put in finally left?"—W. Cowan, Lower Chaunford, Pa.

Answer.—The staging in our garret bee-house is the breadth of the common hive. It should be somewhat broader. It may be upon one, two or three sides, according to the size of the apartment, but at least on the side next the wall, where the aperture is made for the passage of the bees through the wall. The hive is placed directly above this aperture, where a place is previously fitted for its reception, and it remains there permanently. The staging resembles the shelves of a dry goods store, 6 to 12 inches apart, with three or four laths substituted for the board shelves.

"I have a grape vine in my garden, which is a very fine *promiser*, but no *bearer*, owing, I presume, to its want of a mate to fructify its blossoms. It has been in this town many years, but never brought any fruit to maturity. I send you a branch with the blossoms and leaves. Be pleased to inform me how it may be rendered productive, or send me a *mate*."—Jesse Gove, Rutland, Vt.

We apprehend our old school-mate and his neighbors have been bestowing their labor upon a seedling vine, which will never afford them fruit, even with the assistance of a *mate*. Vines raised from seed often prove barren, for want of the pistil, the female organ of the flower, and we know of no process by which such can be rendered fertile. Our practice

has been to throw them away. We advise Mr. G. to follow our example, and to raise from cuttings of vines known to be fertile. His specimens came to hand, but the blossoms were too much decayed to permit us to determine their character.—[Cultivator.]

To DESTROY THE CANADA THISTLE.—Cut them off near the ground, when they are full in the blow or a little past. This process I have tried for three years, and find that it entirely eradicates them from the fields by once mowing. I have noticed several modes of destroying this noxious weed in the Cultivator, but find none attended with so small expense as mine, which has induced me to send you the above. SOLOMON W. JEWETT.

Weybridge, Vt., July 23, 1835.

Remark.—In confirmation of the above, we can state, that in 1834 we unexpectedly found a quarter of an acre of rank thistles in a piece of grass ground recently laid down. They were in full bloom when the grass was mown. The present year, the number was apparently diminished five-sixths, and what remained were stunted dwarf plants. The thistle spreads most in ploughed ground and in highways, where they are rooted among by the hogs.—[Cultivator.]

[From the New-England Farmer.]

TO YOUNG FARMERS.

How to kill Bushes and Briers by the Roadside.—After weeding your corn you will often find a good supply of grass, bushes and briers, full of sap, growing beside your fences. To kill these let three or four furrows be ploughed near the fence—let your boy with a shovel bend down flat to the ground the bushes and the briers, while you, with one of Partridge's four-tined forks, throw on sods enough to bury them completely. This is as easy as to cut them, and is a much surer mode of curing the evil.

How to make Manure.—Harrow this ridge of dirt once or twice during the summer, keeping the sods and bushes down close, and in November cart and spread it on your mowing grounds, taking care to put light soil on to heavy, and heavy soil on to light lands. You may make good manure in this way for less than a shilling a load.

How to keep Cattle out of the Highway.—Cattle are much inclined to run in the highway, either when that affords the best feed, or when they have no other pasture. By the process above recommended you will compel these vagrants *to walk in different paths*, and if *your* fences be good, the inclosures of their owners will be the more likely to afford them an asylum.

This simple process then accomplishes three objects. It kills your bushes and briers, makes you a good manure, and drives stray beasts from the road. One more advantage shall be named, besides what you gain in the addition of beauty to your highways and fields. Your rows of winter apple trees will grow and bear better by the roadside by ploughing in this manner than they will when you leave the soil and bushes undisturbed.

Young trees, particularly, cannot contend with success against the roots of grass and bushes. Breaking up the soil, even if a part of it be carried away, is beneficial to them.

None but winter fruit should grow by the road side, and the Baldwin is here to be preferred to the Greening, as it grows more erect and will not rudely salute the civil traveller.

By picking these winter apples in season you will save nearly the whole fruit to yourself; but suppose you lose one half, and it gets into the pocket of the traveller, you can well afford it; for only half the shade of the tree falls on *your* land. And trees growing by a wall are usually much more productive than those standing in midfield.

Apple trees are not so ornamental by the roadside as some other trees, but they are more useful, and they do less injury to the grass beneath and around them than any trees excepting the locust.

Few people are willing to devote time or land for merely ornamental trees, and we cannot expect that our roads will ever be shaded by them. I ask you, therefore, to consult your own interest,—set out winter fruit trees that will grow erect, *on the south side of the road*, in your field, near the wall, and I promise you as much profit from these as from any of your fruit trees.

Yours, &c. . W. B.

Framingham, Mass., June 24, 1835.

To DESTROY ANT-HILLS.—The Pismire [ants] are becoming quite a detriment on some of our valuable lands, especially meadows, by the raising of mounds and destroying of crops. They, similar to the honey-bee, when too numerous in one family, emigrate to new grounds, and are thus constantly multiplying their habitations. They may be destroyed by taking out of the centre of the mound, a block the width and depth of a spade, just as winter sets in, or before the ground freezes.

S. W. JEWETT.

AVERY'S ROTARY ENGINE.—After a long and vexatious, and yet unavoidable delay, we are enabled to give a drawing of Avery's Rotary Engine, of which we have frequently spoken before. The annexed drawing is taken from a *two*-horse power engine, built for this office, to drive a printing machine, which prints both sides of the sheet before it leaves the press. This engine, as it will be seen, together with the boiler, force pump, and governor, and, in short, *every thing necessary* for communicating motion to them and to the machinery to be operated, occupies a very small space, it being only 4 feet 8, by 2 feet 10 inches. The boiler is 17 inches in diameter, and 78 inches high; the furnace for anthracite coal occupying about one fifth part of it.

The principal advantages of this engine, as we conceive, consists in its compactness, the ease with which it is managed by any person who can tend the *fire*, the trifling cost of fuel, as well as the small outlay for the engine. The most important advantage, however, for many purposes, and especially for driving *printing machines*, will be found in its perfectly uniform motion. It is indeed so perfect, and the velocity so great, being about *five thousand* revolutions of the arm, shaft, and of course pulley on which the band runs, per minute, that but for other than the ordinary machinery attached to the engine, a casual observer would scarcely know that a steam engine was in operation.

In No. 12, vol. iv., of the Railroad Journal, is published an account of the performance of an engine used by the proprietors, Messrs. E. Lynds & Son, in their shop at Syracuse, New-York, which has now been in use more than two years, and we cannot do better than to re-publish a part of that article.

The following extract refers to an engine with 18 inch arms, of 6 horse power, but the engraving given herewith represents one with 12 inch arms, or about 2 horse power. There is one now in operation in this city for sawing mahogany, with 2½ feet arms, which will do the work of a 12 or 15 horse power engine, and performs to the entire satisfaction of those who use it.

"The engine, that is, the shaft and arms, weigh, as I learn, only 15 lbs.; the arms, from centre of shaft to their ends, are 18 inches, and in their revolutions describe a circle of 9 feet 5 inches in circumference; the two apertures at the end of the arms are equal to the eighth part of a superficial inch, and under a pressure of 80 lbs. to the square inch, will balance a weight of 10 lbs. From some experiments made, it is estimated to carry a load of 8 lbs. through a space of 37,666 feet per minute. The boiler has 66 feet surface exposed to the fire, and consumes daily half a cord of soft dry wood.

There are in the establishment the following machines in operation, namely, 2 large engine lathes; 2 small do. do.; 2 hand lathes; 1 boring mill for boring cylinders; 2 drilling lathes; 1 grindstone; 1 mill for grinding coal; 2 bellows, 40 double strokes each per minute, which will force 580 cubic feet of air per minute, under a pressure of 1½ lbs. per square inch, and requires 4 to 5 horse power to perform its operation of melting 1500 lbs. of iron per hour."

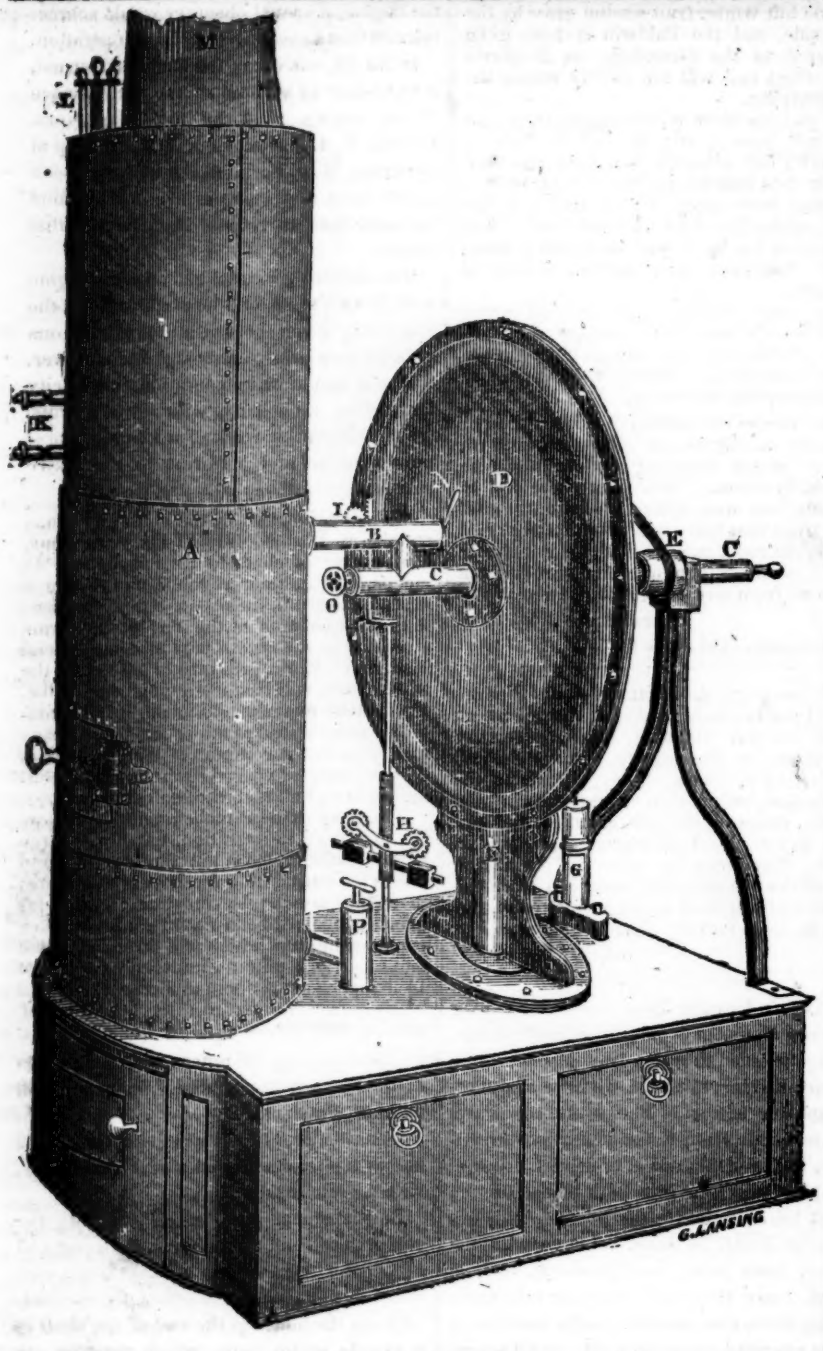
The following references will give an idea of the engine; to examine it, however, will be more satisfactory.

A, the boiler, 17 inches in diameter, and 78 inches high, standing on a cast iron frame, with a grate inside.

B, the steam pipe, which conducts the steam to the end of the shaft C C, one end of which is enclosed in a superfluous cast iron tube. The steam is ordinarily conducted from the boiler to the end of the shaft in a simple steam pipe, which may be six inches, or 6 or 12 feet in length, to accommodate the engine to the machinery, without regard to the position of the boiler.

C C, the shaft passing through the case D, and the arms Q, Q, fig. 2, which are enclosed, and revolve in the case D. On this shaft, as will be seen in fig. 2, is the pulley E, from which the band passes to the machinery.

D, a circular cast iron case, in two parts, fitted and put together with bolts, and made steam tight. This case has in some instances been made of sheet iron; cast iron, however, is deemed best. The case, although the engine, or revolving arm, is only ⅜ of an inch in the thickest part, is at least 5 inches through in the centre, where the shaft passes, having the two concave



surfaces turned together; and it is considerably larger, or of greater diameter, than the length of the arms, that there may be space, which is enlarged by giving to the casting, near the outer edge, a half circle in each part of about 3 inches in diameter, which founds a circular channel or groove for the steam beyond the end of the arm, and by which it finds the outlet F, through the bottom, and connected with a pipe which conducts it off outside of the building.

G, the supply pump, operated in this engine by cog wheels, but ordinarily by a band. The wheels, however, are not represented in the engraving, being desirous to show the engine as in general use, and simplest form.

H, I, the governor, or apparatus for regulating the supply of steam to the engine. This regulator is constructed upon a new plan, and works with cog wheels.

K, gauge cocks.

L, safety valve, which is set at a pressure of 100 lbs. to the square inch.

M, smoke pipe—a six inch stove pipe.

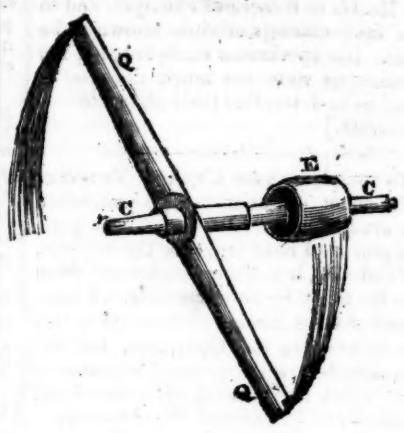
N, apparatus for stopping the steam, or letting it on to the engine.

O, serves to regulate the packing around the shaft.

P, water supply pipe.

Fig. 2.—C C, shaft; E, pulley for the band; *r*, the orifice in the end of shaft where the steam enters; Q Q, the arms at right angles with the shaft, and through which it passes.

Fig. 2.



There being a free communication (except when obstructed by the throttle valve, by which it may be *in part, or entirely* cut off, as may be desired, thereby increasing or diminishing the velocity,) from the boiler to the shaft and arms, there is necessarily an equal pressure upon the square inch of the arms, as upon the boiler, and hence the RE-ACTION, in consequence of the pressure in every part, except where the steam escapes, and not from the action of the steam against the atmosphere, as is generally supposed.

This engine, we are yet fully in the faith to believe, will be found an important improvement for *railroad purposes*. The only locomotive engine of the kind ever used, run for a short time, last spring, on the *Newark* railroad; and, after various experiments, which were made to test its qualities and power, a car was loaded with four tons of iron, and attached to the engine, which took it, with great ease, over the Bergen Ridge, where there is an elevation of 152 feet to the mile—and in one place, for a *short* distance, when leaving the direct track for that built temporarily on the bank, *of six feet in one hundred*, or 312 feet to the mile.

This performance, although in itself a small affair, is, knowing, as we do, the ingenuity and perseverance of the inventor, *William Avery*, to us evidence that another engine, built and improved upon by the little experience already had, will surmount elevations of 150 to 200 *feet per mile, with loads of eight to twelve tons*, and that the same engine will, on a level, or gently undulating road, perform 35 to 50 miles per hour.

Mr. Avery is now engaged upon a locomotive engine, a model of which we have examined, which will, we doubt not, perform all we have here predicted; and if so, what can prevent them from being generally adopted on all our Railroads?

If we were at liberty, we should attempt to give a drawing and description of this locomotive; but, as it is his desire to complete it first, we shall defer for the present further allusion to it, or until we have permission to give a definite account of it.

[*From No. 3, of "The Silkworm."*]

Although I have, in the first number, announced my intention so to digest and arrange the subject of the "Silkworm" as to render the whole a connected and systematic treatise, yet I find it impossible, at least for me, so to proceed as not to require occasionally to intersperse such items of necessary information as may have escaped my mind in the regular order, or perhaps have been suggested afterwards, by reflection, or by queries and interrogatories, which I have daily to answer. But such little irregularities I trust the public will pardon, as I am determined not to be wanting in any information which can throw useful light on the subject.

The following questions are daily put to me by persons wishing to embark in the business; and indeed they must rationally present themselves to the mind of any prudent person about to embark in a business with which such person is wholly unacquainted.

1. How many mulberry trees will grow on an acre?
2. What weight of leaves will each tree yield in a season?
3. How many worms will feed on the produce of an acre of leaves?
4. What weight of leaves will feed a given number, say ten thousand worms?
5. What is the ordinary number of cocoons to a pound?
6. How many pounds of cocoons will make a pound of silk?
7. How many pounds of silk may be expected from an acre of trees?
8. What extent of shelves, or other suitable fixtures, will be necessary for the worms from an ounce of eggs?
9. How many persons will be required during the feeding season, and how long, to attend an establishment of any given number of acres?
10. What will be the kind and quantity of help to reel the silk, and what the length of time?

To the above questions I will endeavor to give specific answers, where the nature of the case will permit; and where they must necessarily be drawn from experience, as the practice of different persons, owing not only to dissimilarity in attending circumstances, but perhaps somewhat to different treatment, has shown results not exactly agreeing, I shall in each such case set down a number of the most respectable reports, and give the mean result of the whole, making allowances, also, when I think the nature of the case requires it.

Quest. 1. How many mulberry trees will grow on an acre?

Ans. If they are set in drills nine feet apart, and the trees in the drills three feet apart, ... 1613

If two feet apart, ...	2420
If 18 inches, ...	3226
If set as standard trees, 10 feet distant, .	456
If set 12 feet distant, ...	302½

As the subject has been tested by too much experience to leave much doubt on it, I feel a degree of confidence that hedge rows will take the preference generally in this country. It has been advised by some to set the rows at less distance than nine feet; but as a principal object in view is to leave room to pass between them with a horse cart or light waggon, I think a moment's reflection will show that, as the trees will branch out two or three feet on each side, a less space than nine feet will not leave the necessary passage. When the trees are small, the space may be occupied by two or three rows of ruta bagas, potatoes, or other similar plant. And when the trees are grown to the size intended, there will still be room for one or more rows; and the dressing and loosening the ground will always benefit rather than injure the mulberries.

Quest. 2. What weight of leaves will each tree yield in a season?

Ans. With respect to standard trees, the letter from Mr. Rush, then Secretary of the Treasury, to Congress, relative to the subject, says, "It is impossible to state with any degree of tolerable accuracy the quantity of leaves which an acre, or even a single mulberry tree, will produce, owing to the operation of one or more of the numerous causes influencing their production, such as the particular species of trees; the greater or less care taken of them in their early stages of growth; their position and distance from one another when planted out; the soil; and especially bad or injudicious pruning, or total neglect of this necessary measure. The estimates are accordingly very various.

Mr. Hout, of Manheim, in a communication to the Agricultural Society of the Grand Duchy of Baden, says, "A white mulberry tree, twenty years old, produces on an average two quintals of foliage." I think, if we set down from one to two hundred weight for a single standard tree, we shall be sure to be on the safe side.

With respect to trees set in hedge rows, probably no experiment has been made which can serve as the basis of calculations. Going then on the ground of opinion, I should say that such trees, at five years old, might yield from three to five pounds each during the season of feeding; and at ten years old, I think from fifteen to twenty pounds might be expected. If they will do this, and I think there cannot be much doubt, then the hedges will produce far the greatest quantity of leaves; for the above statement of Mr. Hout refers to trees standing at wide distance —at least, not less than 24 feet apart,—in which case an acre could not contain more than about 70 trees, while twenty times the number could stand in hedge rows.

Quest. 3. How many worms can be fed on the produce of an acre of leaves?

Ans. By Count Dandolo's estimates, 68 eggs weigh 1 grain; consequently an ounce of eggs will contain 22,640, and five ounces will contain 113,200. These, according to his directions for feeding, will require 4,265 lbs. If we allow 2420 trees to an acre, and each tree to yield 4 lbs., the acre would of course produce 9680 lbs. of leaves. Then, 4265 : 113200 : : 9680 = 256934 +; so that an acre of ground, by the above calculation of hedge rows, 9 feet, and trees 2 feet, apart, and allowing each tree at 5 years old to give 4 lbs. of leaves, an acre will feed nearly 257,000 worms. If, at ten years old, they will produce 15 lbs. per tree, the acre will feed 721,000 worms, or 31 8-10 ounces. This comes so near the average result of different calculators, that I think it cannot be far out of the way.

Quest. 4. What weight of leaves will feed a given number, say ten thousand worms?

Ans. The materials for this answer are given in the answer preceding. If 113,200 worms will eat 4265 lbs. of leaves, then 1000 worms will require 37 lbs. 12 ozs.; 10,000, at the same rate, 377 lbs. 8 ozs.

Quest. 5. What is the ordinary number of cocoons to a pound?

Ans. The average number, which I have taken from fourteen different parcels, is 319 8-14. The greatest number 600, the least 200. Leaving out the sample of 600, and the average of the remaining 13 parcels is 298, which is about the average which may be relied on.

Quest. 6. How many pounds of cocoons will make a pound of silk?

Ans. The average of 8 parcels given in the report of the Secretary, as collected by him from sources, is 1 lb. of silk from 9 lbs. 4¾ ozs. of cocoons. Of 7 other parcels given in the same

report, the average is 1 lb. of silk to 10 lbs. 12 ozs. of cocoons. Mr. Cobb gives the weight of one parcel, in his Manual, of a little over 1 lb. of silk from 8 lbs. of cocoons. There will doubtless be some little difference from different breeds of worms, and much will depend on the care taken of them; but I think the fair average to be relied on is 1 lb. of silk from 10 lbs. of cocoons.

Quest. 7. How many pounds of silk may be expected from an acre of trees?

Ans. If the foregoing calculations are correct, (and I am confident they are not overrated,) then, an acre of trees, 5 years old, will feed 257,000 worms. If each makes a cocoon, and 298 make a pound of cocoons, and 10 pounds of cocoons a pound of silk, the acre will produce 86 pounds of silk, and at 10 years old will produce 242 pounds nearly.

Quest. 8. What extent of shelves or other fixtures will be necessary for the worms from an ounce of eggs?

Ans. The largest allowance I have seen in any calculation, is in Mr. Cobb's Manual; but as it must conduce much more to the health of the worms to have space enough than to be crowded together, I think he has allowed none too much. This table stands thus:

	Square ft.	inches.
In the first age, ...	7	4
In the second age, ...	14	8
In the third age, ...	34	10
In the fourth age, ...	82	6
In the fifth age, ...	183	4

As a general rule, the worms ought not to touch one another.

Quest. 9. How many persons will be required during the feeding season to attend an establishment of any given number of acres?

Ans. For the first three weeks, when the trees are 5 years old, one industrious woman could do the work. During the two last weeks, four or five women will be necessary, or in both cases children equivalent.

Quest. 10. What will be the kind and quantity of help to reel the silk, and what the length of time?

Ans. The most proper persons for silk reelers are females, of nearly or quite mature age, of quick apprehension, and lively, quick motion. The assistant ought to be of similar description, but may be somewhat younger. The quantity reeled in a given time must depend greatly on the skill and dexterity of the persons. One pound in a day has been considered a rare day's work in Italy; but Mr. D'Homergue says, owing to the improvement in skill and machinery, three pounds can now be reeled in 10 working hours.

WEIGHING THE FOOD FOR THE WORMS.

As success in cultivating silk depends not only upon the health and activity of the worms, but in economy in the expenditure of the leaves on which they feed, I think it far the most advisable mode for persons engaging in the business experimentally, to feed the worms, at least the first year, by weight, agreeably to the rules given in the compendium given in this and the preceding number. I do not know that there is danger of overfeeding the worms, as they appear to understand the management of their own appetites; still there is, perhaps, a possibility of their eating more than is for their good; but it is difficult, without the aid of experience, to give them enough without being liable in some cases to give them more than enough. If more than enough is given them, the refuse will increase the quantity of filth, and help to vitiate the atmosphere, and make trouble in cleaning, as well as endanger the health of the worms.

MORUS MULTICAULIS—CHINESE MULBERRY.

Since issuing the first number of the "Silkworm," accounts have been received from different quarters, more favorable to the prospects of ultimate success in cultivating this most valuable plant. There seems at least grounds to hope that it may become gradually inured to the severity of our winters. To effect so desirable an object, it may be well for adventurers in the silk business to try such experiments upon a small scale as may not subject them to much loss of time or money, if they fail. But I would repeat the caution, not to give up a certainty for an uncertainty, but make the white mulberry the main dependence, until the success of the other is established beyond any room for doubt.

EXTRACT OF A LETTER FROM MR. HARVEY JOHNSON, OF HOLLAND, COUNTY OF ERIE.

[It is not my intention to tax the reader with all the details of the history of silk, nor even of its first introduction into this country; but there is something so interesting, (at least to me,) in the plain unstudied style of Mr. JOHNSON, added to the circumstance that the facts he relates were mostly known to me at the time, (for I am some years his senior, and was brought up near the same neighborhood,) that I cannot deny myself the pleasure of publishing part of his letter. I would now give more for his gloves than for any other pair in existence.—ED.]

DEAR SIR,—Although a stranger, I take the liberty to address you on a subject which I have long considered of incalculable importance to our country—I refer to the subject of silk. My introduction will be an awkward piece of work, as I must assume the character of the egotist.

My native place is New-Haven, Connecticut. Some fifty years ago, my father set out about two thousand white mulberry trees, from which a great quantity of silk was made, (I mean a great quantity for that day.) He carried on the business for a number of years. He raised a great many worms himself, and let his trees to several individuals, and had a certain part of the raw silk. My father's family consisted of eight children, five daughters and three sons. They were not all of them able to do much towards picking leaves, &c. but with a little help from the apprentices, (for my father was a mechanic,) occasionally, they managed the business so as to feed a great many worms. I think he kept one year over 200,000. This was an unfavorable year, (I think it was 1794); a late frost killed the leaves after the worms had hatched, or at the time they were hatching, so that the growth of the worms was much backened by lack of leaves. Some individuals had to go into the woods and gather wild leaves; but the balls were not so large and solid as in good years.

It is not worth while to mention all the particulars which occur to my mind, but every thing relating to the business was done to great disadvantage. My father's land lay in detached pieces: one large orchard was 1½ miles off. It was difficult to find workmen who understood dyeing, weaving, or manufacturing any way. Still we made a number of pieces of cloth for women's and men's wear, one piece of handkerchiefs, and a number of pairs of stockings, some knit and some wove; and some pairs of gloves. I have yet a pair of the gloves, which were made, I believe, 35 years ago, which I prize very highly.

SILK CULTIVATING AND MANUFACTURING ESTABLISHMENT.

Every week brings new notices of the progress of the Silk business, and of the simultaneous awakening of the people, through every part of the United States and Territories, to a sense of its importance. I know not what calculations we may make,—or, rather, what we may not make,—on its progress in future. It is now less than two years since very little was said or thought of raising it, except by a very few of those old-fashioned patriots who look for the good of mankind beyond

the prejudices of education, and those few were looked upon as visionaries. It has already made greater advances than cotton, at the first part of its history in this country, made in twenty years.

This business has in many respects the advantage of cotton, as, 1st, The production of the raw material is confined to no locality in our country, but will be equally ready to reward the industry of its producer in any section of country, from the Atlantic to the Rocky Mountains; 2d, It is appropriately the work of women and children, while the growing of cotton is principally, and should be altogether, the work of males; 3d, The labor is peculiarly healthy, while that of producing cotton, from its location, is not so; 4th, The cotton business may be overdone, and even, at times, has been so, but this, as we have very little to fear from rivalship by other nations, can hardly ever be the case with silk.

This business is not only now engaging the attention of individuals of almost every rank and station throughout the United States, but large and opulent companies are formed and forming in various directions.

A rich and powerful company is formed at Providence, R. I., and has not only made great preparations to extend the business, including 40 acres of mulberry trees, and also new and appropriate machinery and steam power, but have already furnished the market with rich and excellent articles. Other similar companies are already organized in Hartford, Conn., in New-York, and several other places.

Fears have been expressed by the Editor of the "Cultivator," and I think not without strong and just grounds, that these large and powerful associations will operate against the general good. In this he has been opposed by the Editors of the "Silk Culturist," of Hartford, and the "Silk Manual," of Boston. But powerful establishments will always find powerful advocates. Time and experience will decide the question: until which time, reasoning on either side will be of little avail.

COMMUNICATION FROM THE HON. A. SPENCER.

Mr. Blydenburgh,—I cannot repress the expression of the satisfaction I derived from the perusal of the first number of "The Silkworm," conducted by you. Others, many others, may prefer reading political and partisan newspapers, but to me there is more pleasure in reading and contemplating on the bounties of a munificent Providence in providing so lavishly for the comforts and enjoyments of man. This remark is illustrated and enforced by contemplating the silkworm, in its birth, its various changes, its nurture, and finally its fabrication of the cocoon, which yields the finest known material for fabrics, almost indispensable to the embellishment and comfort of the human race.

I am not one of those who believe that we are the most virtuous and best informed people on the face of the earth; nevertheless I do believe that we have among us many, very many, ingenious and inventive men, capable, with proper inducements, of carrying to high perfection, and in the simplest manner, the discoveries of past times. We have also an intelligent population, ready and zealous in seizing on any new sources of industry which shall promise an adequate reward for their toil and labor. I think it then only necessary to satisfy our agriculturists that the culture of silk will be attended with a handsome profit, to ensure its general adoption. I feel an entire confidence that you will be able to convince the most skeptical that the culture of silk will afford to our farmers a richer reward than any other crop they can raise, and that ten acres devoted to the mulberry, and the rearing of the silkworm, in a farm of one hundred acres, will at the end of five years produce a greater profit than the remaining ninety, however skilfully cultivated. This profit will keep increasing from year to year, in proportion to the growth of the trees; and when we add to this the fact, that the tending of the worms will require only the labor of women, children, and feeble persons, that it interferes not at all with the labor of those who cultivate the ninety acres, and that therefore it is all clear gain, who can doubt of the result?

The general substitution of cotton for linen fabrics, which were formerly made by our females, and the introduction of many labor-saving machines, has relieved our women from much manual labor, and they have leisure time which they would willingly devote to any occupation adapted to their capacities. The rearing of the worm and reeling the silk from the cocoons is the very employment adapted to them. Can it be doubted, then, that the matrons and young women of the country will cheerfully and zealously enter upon an employment so honorable, so profitable, and I may add so national.

My particular purpose in this communication was to call your attention to an act of the Legislature of this State at its last session, which for its wisdom and patriotism reflects honor on the State. This law *requires the agents and inspectors of the state-prisons to cause the manufacture of silk goods to be introduced and carried on in those prisons, and for that purpose they are authorized to purchase as well cocoons raised in this country as the raw material imported, at such prices as they may deem reasonable, and to extend the business, as the same can be prosecuted, in the judgment of the inspectors, with a prospect of ultimate profit.*

The probable and almost certain effects of this law will be to introduce into this state the manufacture of silk immediately, without waiting indefinitely the enterprise and patronage of private individuals. The certain effects of the act will be to stimulate and encourage the culture of silk by opening two certain and steady markets for the purchase of the cocoons; and when we reflect that the facilities for transporting cocoons to the prisons are unequalled, there is every inducement to commence the culture of silk without loss of time.

There will, however, be a great inducement with our females, by the enhanced price of reeled silk over the cocoons, to reel off the silk from the cocoons they produce, and sell it in that shape. They will have their option, either to sell the cocoons, or the silk in its raw state. Those who prefer the latter mode, by the aid of Gay's and Moseley's new invented reel, will soon perfect themselves in the art of reeling.

What magnificent results must follow a general attention to the culture of silk!

We shall avoid a direct annual drain from the United States of more than $10,000,000. This amount, instead of being drawn from the country for the support of foreign agriculturists and mechanics, will go to reward and invigorate our own. In the course of a few years we shall become exporters of American manufactured silk, as well as the raw material. It is a business, too, which cannot be overdone; the demand will always bear a just proportion to the product. In many countries, particularly Great Britain, the climate is not genial to the worm, whilst in ours it is established beyond controversy, that we may produce, with proper care and skill, silk of as fine a texture and lustre as is produced in Italy or France.

Yours, A. S.

[From the Ladies' Magazine.]

REMARKS ON THE CULTURE OF SILK.

At a time when so many are complaining of their disappoin t ments and troubles; when the depression in commerce, and total failure of domestic manufactures, are felt so severely by all classes of community, duty, no less than inclination, should prompt every good citizen to point out such means of relieving existing inconveniences, as may offer themselves to his thoughts. Actuated by a desire to awaken an interest for a branch of industry by which thousands around us might acquire, to say the least, a comfortable subsistence, we would call the attention of the readers of the Ladies' Magazine to a few observations on the culture of Silk.

Our remarks are addressed particularly to the Ladies, not only because so much depends upon their influence in advancing an object of domestic employment, even if its usefulness be universally acknowledged, but because, by an hereditary sanction, they should be the promoters of this desirable object.

The best arguments which can be offered of the estimation

with which the manufacture of Silk was regarded centuries since, are the efforts that were made by several nations to render themselves acquainted with its culture, and the enormous sums expended for it when practicable to be procured; and also, the vigilance with which its cultivators, for so long a time, concealed the nature even of the material.

The first knowledge we have of the cultivation of the Silkworm, and the manufacture of Silk, was among the inhabitants of Serica, the northern part of China, from whence it derived its name.

As early as 2700 years before the Christian era, an Empress of China, desirous of rendering silkworms more extensively useful than they had been, collected them from mulberry trees, and having them conveyed to her dwelling, not only, with much assiduity, furnished them with their appropriate food, and regulated the temperature in which they were placed, but also directed her household in what manner to manufacture the material from the cocoon. This employment, although at first confined to ladies of the highest rank, gradually became general among females; and after a number of years all classes were clothed in silk. As the manufacture increased, it became an article of exportation to the neighboring countries.

And so great was the demand for this substance, that the merchants of Serica, instead of travelling into Persia, merely to traffic, journeyed even to Syria and Egypt; and although two-thirds of a year were often occupied in these expeditions, they found themselves amply repaid.

Persia, by prohibiting foreigners from passing to China through her territories, was enabled for centuries to monopolize a great part of the silk trade. And it was not until this kingdom was overrun by the armies of Alexander, that the product of the silkworm was carried as far west as Greece. From this last country, silk was sent to Rome; here it was worn for a long time by the most wealthy ladies only, but it was, however, combined with other materials. A Roman Emperor, in the year 218, is said to have been the first who wore a garment entirely of silk—and fifty years after, this article was of the same value as gold.

Although repeated attempts were made by succeeding Emperors to form a more direct intercourse with China than through Persia, and the different nations of Eastern Africa were urged to distract the trade from Persia, by bringing silk themselves from China, and selling it to the Romans, all their endeavors to satisfy the demand for silk were unavailing.

At length, two monks, who had been travelling in China, made known to Justinian, at Constantinople, that this precious product was the secretion of a caterpillar—together with the means of rearing the worm, and manufacturing the silk. Persuaded by the offers of an immense reward, they returned to China, and by concealing the eggs of the worm in their hollow staves, returned in safety with them to Justinian. Thus, in the year 555, Europe became possessed of the means of raising silk.

It seems almost incredible, that the secret should have been so long a time kept inviolable by one people. This we conclude to have been the case; for although, by the conquest of Persia, silk was obtained, we do not learn that the *worm* was found. Had not the penalty of death been attached to its disclosure, a knowledge of it would undoubtedly have sooner been ascertained.

As in China, so also in Greece, ladies of the greatest distinction attended to the rearing of silkworms, at their introduction there. For upwards of four centuries the cultivation of silk was confined to the countries of Greece; Sicily and Naples were ignorant of the art, until the conquest of Greece by Roger 1st; they also concealing their knowledge for a considerable length of time, its introduction into the rest of Italy was extremely slow.

Although, for a great length of time, silk in its raw state had been imported into England, and even so early as 1661, upwards of 40,000 individuals were engaged in its manufacture in London—and many years since, English silk was considered in Italy more valuable than the Italian—nothing of importance was done towards the introduction of the worm there until about ten years since.

The cultivation of the silkworm is a great source of revenue to France: from it 40,000,000 florins are calculated annually to be received.

In Germany, several previous attempts had failed to render the cultivation of the silkworm important, till during the past few years, great efforts have been made there, originating with the Agricultural Society of Bavaria. Prussia and Sweden also have not been idle.

In this country, the raising of the silkworm occupied the attention of the first settlers of Virginia—rewards were offered to the successful cultivators, and fines demanded of all planters who should not raise a certain number of mulberry trees upon a given quantity of land. Thus was this rendered a source of considerable profit: and in 1664, we read of an individual having 70,000 mulberry trees growing upon his lands.

In the year 1735, the first silk was raised in Georgia: this was manufactured, and sent to England as a present to the Queen.

The culture of Silk was for a long time attended to by the most distinguished ladies of South Carolina. Ramsey, in his history of that state, makes mention of a quantity of silk having been taken to England by Mrs. Pinckney, manufactured by herself, of which dresses were made for the Princess Dowager of Wales and Lord Chesterfield.

As early as the year 1771, Pennsylvania and New-Jersey commenced the culture of silk: and although various causes for a time produced a suppression of this industry, a re-action has commenced and much will undoubtedly be done there.

The rearing of silkworms, and the manufacture of silk, has in a greater or less degree claimed the attention of economists in New-Hampshire, Vermont, Massachusetts, and within a short time in Maine.

But no one of the New-England states has been so successful in this employment as Connecticut. In this last state, attention was first directed to the introduction of the silkworm in 1760. The town of Mansfield commenced the experiment; and although the Revolution suspended it for a time, two hundred pounds weight of raw silk were made there, 1769. But instead of tracing the progress of this industry minutely, as was our intention when this article was commenced, its importance will be shown with equal force by glancing at results in different periods. Thus, in 1827, Mansfield produced 2,430 pounds—and the county of Windham alone, in 1826, manufactured 54,000 dollars worth of silk—although the proceeds of three counties, from this branch, in 1810, amounted to less than 29,000 dollars.

INTERESTING FACTS.

A few years since a farmer purchased a farm in the town of Mansfield, on which were standing twelve mulberry trees of full growth. Not being accustomed to the business of making silk, he supposed them to be of no more than the ordinary value of forest trees for fuel. A neighbor, however, soon called upon him, and agreed to pay him twelve dollars annually, for the privilege of picking the leaves. The farmer, to his astonishment, found that the twelve mulberry trees were as good to him as $200, at six per cent. interest.—[Silk Culturist.]

CULTIVATION OF SILK.—It is little more than fifty years ago since an American vessel was seized at Liverpool for having on board eight bales of cotton, it not being believed that the article could be produced in this country. At present about 600,000 bales are carried to the same port. To the culture of this article the country owes a great part of its wealth and prosperity. Where, fifty years ago, eight bales of cotton were produced, one million two hundred thousand are now produced. If, fifty years ago, a man had ventured to predict that the article of cotton would become the grand staple of the country, and add millions upon millions to its wealth, he would have been laughed at as a madman. It has lately been predicted that before many years are passed the production of silk in this country will equal the production of cotton. The cultivation of this article has been commenced by the enterprising men of the east. The soil and climate of New England are admirably adapted to its cultivation. Those who have thus far engaged in it have reaped good profits, and have every reason to persevere. It has been commenced in a part of the country where thrift and industry have never failed to succeed. It has been commenced under far more favorable circumstances than those which attended the first cultivation of cotton. It requires but little labor, and the principal part of the labor required may be performed by females and children. The experiment thus far has proved successful, and it has been attended with but a trifling degree of expense.

[From the Maine Farmer.]

NORTHERN SHEPHERD. — The book lately published by the Kennebec County Agricultural Society, with this title, contains much valuable matter, and particularly in those parts of it which treat of the management and diseases of sheep, with the cures of the same.

As this work is before the public under the authority of the Agricultural Society, whatever it contains, which may tend to misdirect public opinion, should be corrected. The intention of the subscriber is to confine himself to the correction of a very mistaken view of the Dishley breed of sheep, compared with the Merino breed.

The Dishley breed of sheep has been introduced into this country at a great expense, and has been highly approved of in Pennsylvania and Massachusetts, and should not therefore be hastily condemned.

With due deference to those of the Committee who prepared this comparison, it does appear from the Vote of the Society, that its object was (through its Committee) to ascertain "*the best breeds of sheep and the mode of improving them.*" Would it not then have been better, and more consistent with this vote, to have described the character and qualities of each breed noticed, and to have left it to the judgment of individuals to make their own selection. The course the Committee have taken tends to depreciate a breed of sheep in high estimation in the first agricultural country in the world, and to check important experiments which might prove beneficial to this country. It is very remarkable that the British depend almost entirely *on the importation of Merino wool* for the manufacture of the finest broadcloths, and give their attention to other breeds which are *more profitable.*

It is well known that the rage for Merino sheep had nearly swept the country of what was called the "native or common breed." Aware of the consequences, the subscriber pursued a course that would secure to the farmers a breed *better* suited for domestic use than the Merino.

Having previously sold his Merino flock, he bought of Col. Jacques, of Charlestown, a ram and ewe lamb of the Dishley breed, with long and fine wool, and selected twenty ewes of the Merino breed, intending by this cross to improve the *shape* and *constitution of the Merino breed of sheep*, and add to the fineness of the wool of the Dishley.

The following facts will show what benefits have been derived from this cross, and will prove that the Merino breed of sheep will not compare with the Dishley for *profits*, notwithstanding the Merino wool is finer.

In comparing the few sales of the Dishley and its cross, with the prices of the *well washed* Merino wool, there is no great difference.

Col. Green, of Winslow, had an offer of 55 cts. per lb. for the wool of his pure flock.

In 1831, the wool from this cross was sold for 60 cents, when well washed Merino wool sold from 60 to 65 cents.

The purchase of such wool by Mr. S. C. Whittier averaged 62½.

In 1833, from the same flock with the sales of 1831, the wool was sold for 41½ cents per lb., and well washed Merino wool on the sheep's back sold for 45½ cents at the same date.

Thus far the value. It is proposed now to furnish the evidence of the greater quantity of wool from the Dishley and the cross of it, than from the Merino.

Col. Reuben Green had a Dishley buck weighing, in health, 300 lbs., which gave of wool at one shearing 8 lbs.; 3 ewes gave 18 lbs.

Joseph Pillsbury, Esq., on the Thorndike farm in Jackson, has under his care 1000 sheep, whole or in part Saxon, which on the average yield to the fleece 3 lbs.

Dr. Bates, of Norridgwoc, has a flock of 52 Merino and some half blood Saxon and Merino. The average weight of a fleece, 3½ lbs.

Mr. Allen Lambard, of Augusta, has a flock of 130 Merinos, part Saxon. The average weight of a fleece in his flock, 3 lbs.

Mr. Moses Taber has a flock of Merinos mixed with the Saxon. Before he had a buck of the mixed breed he has sheared from rams of the Saxon breed from 6 to 10 lbs.; no average of his flock.

Mr. S. C. Whittier has made extensive purchases of Merino wool, and the average of the fleeces, well washed on the sheep's back, does not exceed 2¾ lbs.

Dutchess County, New-York. This county furnishes the largest quantity of the best quality of Merino wool. From a source that may be relied on, in very extensive sales, the average weight of a fleece of well washed wool on the sheep's back does not exceed 2½ lbs, with a loss in cleansing of about 30 per cent.

The Northern Shepherd, page 128, states the average weight of Merino fleeces at 3½ lbs.

This weight of 3½ lbs. as an average, exceeds the weights stated from various sources, and ought not to be considered as the average to be used in the comparison between the Merino and the Dishley with its cross. It is not intended to dispute the fact, that the writer of the note had himself or knew of some sheep that gave this average weight of 3½ lbs., but it is a well known fact that *weight may be added* to a fleece, through an increase of yolk, by leaving the sheep 15 or 20 days after washing before they are sheared. This will at once account for the excess in weight over all other flocks mentioned. However this may serve the sellers, it is surely injurious to the purchaser, who has to cleanse the wool (of the yolk) before it is manufactured, at a loss of 30 per cent.

It will be fair to consider the 2¾ as the fair average, it being the result of extensive purchases made by one individual in our county, and is proper to use in the comparison. The weight of the average, after well washing and without cleansing, is per fleece 2¾.

Of the mixed breed the following facts are furnished. Mr. R. C. Rogers, of Ripley, Somerset county, had a buck of this breed about 6 years since. For 6 years the fleece averaged per annum 7 lbs. At the time he took this buck, his flock yielded 2½ lbs. on the average, and the average now is 4 lbs.

David Webster, of Rome, had a buck of this breed in 1830. The fleece, after it was well washed, weighed 7½ lbs. In 1833, after the fleeces were washed, the average weight of the same was 4 lbs.

Edmund Parker, of Norridgwoc, had a buck of this breed in 1830—no weight of fleece In 1831, 11 lambs were selected, which were sheared August 4, 1831—weight of wool 21 lbs. 14 oz.

In 1832, at the usual time of shearing, and after they were well washed, an average fleece was taken, and its weight was 5 lbs.

4 bucks were sent to Dover, Penobscot county. Several of the fleeces of the lambs, from this cross with the common sheep, after washing weighed 6 lbs. and a Saxon lamb 6¼.

Col. R. Green, of Winslow, from 6 half blood lambs had 38½ lbs.

Mr. Moses Taber's largest fleece from this mixed Merino 6 lbs. From wethers of the same cross from 4 to 5 lbs. It should be noticed here that the wool of this breed, when well washed, is fit for the manufacturer without cleansing.

The result of the preceding is, that the fair average of the Merino fleece is 2¾ lbs. The fair weight of bucks of the mixed breed is 7 lbs. The average may be about 6 lbs.

The average of fleeces from this mixed breed with the Merino and common sheep is from 4 to 5 lbs.

The public must decide how far the wool of the mixed breed exceeds in weight the wool of the Merino, and whether the *small difference* in value in favor of the *Merino wool* will make up the *great difference of weight* in favor of the *mixed breed.*

Mutton. The mutton from the Merino sheep is in no estimation. The lambs and wethers of the mixed breed afford the *best meat that has been in the market.*

Mr. Joseph Howland killed a wether, the 4 quarters weighed 76 lbs. and in his opinion it was the best of mutton.

The subscriber killed a wether, the 4 quarters weighed 60 lbs. The flesh was marbled with fat, and as well mixed as in a fat ox. I sold a hind quarter for 8 cents per lb. which was pronounced by the best judges, who partook of it, the best they ever tasted—juicy and high flavored.

This article, already lengthy, would be too long if further details were furnished from communications on hand. It may however be stated, from the experience of those who have the mixed, that the ewes are *better mothers*, will keep in better order on coarse food in winter and in poorer pastures in summer. That they have a remarkable disposition to fatten, and to have this fat in the fleshy parts, and that the lambs are fat and well grown early in the season.

As the Committee have omitted to notice the qualities that constitute a perfect sheep, and which notice would have been

useful to the farmer in the choice of his flock, the subscriber, for the farmer's benefit, offers two extracts, one from a valuable English work, entitled "The Complete System of Husbandry," by R. W. Dickinson, M. D., in 2 volumes quarto. The other is taken from a communication made to the Pennsylvania Agricultural Society, entitled "Hints for American Husbandmen," &c. The first of these gives a decided preference to the Dishley breed of sheep over all other long wooled sheep. There is a table giving the comparative value of 16 different breeds of sheep. No. 1 is the Dishley—No. 16 is the Merino or Spanish,—and the latter is the only breed in the list where there is no estimate made of it for mutton. A two year old wether gave 8 lbs. of wool, and the four quarters weighed 100 lbs. The extract follows:

"The advantage of this Dishley breed consists in its producing a better profit to farmers, *in proportion to the quantity of food consumed*, than most others; in being *more perfectly formed*, and consequently *more disposed to fat quickly;* in containing *a much larger proportion of meat to the weight of bone;* in thriving well on such pastures as would not support other sorts of the same size; in being capable of being kept or fattened in larger proportion to the acre than other breeds of the same size of carcase; in the wool being more valuable, though less in quantity, than the other combing wooled sheep, such as Lincoln and Teeswater; in being *ready for the butcher in the early part of Spring instead of the Autumn.* They usually have their lambs in proportion of ½ of the ewes; to which may be added, they are *peaceable* feeders in summer, and *hearty* feeders without waste of food in winter."

An extract from the "Hints for Husbandmen," &c.: "There is no mistake more prevalent, and more egregious, than that which ascribes excellence to *great size.* Unless it be had *easily* and at comparatively small expense, large size does not more determine the extent of usefulness in the quadruped than in the man. Weight is not always ascertained by size—it is ascertained more by compactness and squareness in certain parts, with rotundity of the barrel, than by mere extension of the frame. If the hind quarters be *long, deep* and *wide*—the shoulders be *placed* well back—the *breast be ample*—the brisket be protruded—the back be broad—the *loins wide*—the *girth behind the fore legs and over the chine be large,*—the animal must possess not merely *the frame which weighs most,* but the form which carries most weight in the valuable parts, and affording sufficient room for the action of the lungs; without which, health and thrift can be seldom found. Some animals have good forms, but are "shelly," as it is technically termed, conveying the idea of the absence of the due quantity of flesh. Some breeds produce too much fat in proportion to flesh; those which carry comparatively a large quantity of flesh "*marbled when ripe,*" with the propensity to become fat *at an early age,* and in the shortest time, are those best fitted for grazing purposes. The quantity and quality of the wool is a matter of serious importance, when the value of sheep is to be determined. I do not mean by quality, the fineness of the fibre alone, nor do I mean to confine the remark to sheep whose wool is of the finest sort. The filaments of combing wool should part readily—those of fine wool should be *soft and elastic,* as if it had been frizzled. The mere fineness of the fibre, or length of the staple, is not the only test of excellence: a diseased or half starved sheep produces fine wool, but not an elastic nor useful material. The sheep which produce the finest fleeces are not *necessarily* the best to form *a breeding flock.* If their constitutions be not good, if *their forms be bad,* the secretion of yolk, which is essential for the support of the fleece, must be small; the offspring, consequently, will be a degenerate race. Thus in selecting Merinos, regard should be given to their forms, even in those parts of the country where the demand for the carcase is so small as to make mutton of little value."

I believe it was in 1831 that Mr. Sanford Howard bought some ewes, making his "selection for the carcase, and not for the fleece. With the exception of one, they had very little Merino with them, and the fleeces did not weigh more on an average than 3 lbs." These ewes were crossed with Col. Green's Dishley buck the past season and with mine since. The result follows:

1	3 year old ewe,	½ blood,	from C. Green:	5½
1	2 do. weather,	½ do.	C. V.	5
1	1 do. ewe,	¾ do.		4½
1	1 do. buck,	¾ do.		4½
1	2 do. ewe,	½ do.		4½
1	1 do. wether,	½ do.		5½
1	1 do. buck,	½ do.		4½
				33½

or 4 lbs. 12½ oz. to the fleece on the average.

The 3 year old ½ Dishley gave 18¾ of wool in three years. Mr. Roach's communication is a valuable article, and fixes the value of the South Down sheep.

Yours, CH'S. VAUGHAN.

We copy the annexed article from the New England Farmer, and cannot refrain from expressing our fervent desire that something of the kind might be adopted in this and other cities, as there are always more or less boys who are destitute of that care which is so essential to their welfare and well being.

FARM SCHOOL ON THOMPSON'S ISLAND.

On the 9th inst. we had the pleasure of joining a large party of respectable inhabitants of Boston, in an excursion to visit the *Boston Asylum and Farm School.* The steamboat General Lincoln gave us a rapid and pleasing conveyance to one of the islands in Boston harbor, called Thompson's Island, in which the above named seminary is situated. This steamboat is a delighful vehicle, and won its way with a swift and easy progression among the isles and promontories which diversify and adorn as fine an expanse as ever presented a vase to the majesty of Neptune, or a mirror to his queen, Madam Amphitrite.

A little past 9 A. M., we were landed at a wharf recently constructed by the founders of the establishment, and were conducted by Capt. Chandler, the Superintendent, to a large and commodious Farm-house. This is of brick, standing in an elevated site, from which is a beautiful and romantic view of the outer and the inner harbor, as well as a picturesque country bordering on the water, and presenting various forms of beauty and sublimity. The pupils of this school amounting to fifty-six were assembled in a large hall, in a neat but plain uniform dress, and exhibited as pleasing a collection of "happy faces" as we recollect ever to have seen. When we mentally contrasted the situation and prospects of these boys with the wretched and desperate condition from which they were rescued by the charity of the founders and patrons of the Farm School, we could not but wish success to the humane efforts of the latter; and that they might long live and prosper, enjoying the happiness of being the means under Providence of rendering others happy and useful in their day and generation, instead of paupers and criminals, which without the helping hand of charity they could scarcely have failed of becoming. The pupils of the institution are taught reading, writing and arithmetic, and particular care is taken as well of their moral and physical as of their intellectual education.

The visitors, by invitation, walked over the farm, which consists of about 140 acres. This is naturally a good soil, and the quantity and quality of this produce is increasing under the skilful management of Captain Chandler, who appears to have been *born a farmer, and brought up a rural economist;* and a better man for the station he occupies, we believe could not be found in the Union. Hoping to obtain a particular statement of his improvements both in progress and in anticipation, we shall say nothing about them till we can realize our wishes on this subject.

The visitors were presented with handbills containing "*The First Annual Report of the Directors of the Boston Asylum and Farm School.*" By this it appears that "The proposition for a Farm School, for the more extensive rescue of idle and morally exposed children in our city, grew out of the fact, that the Asylum for Indigent Boys, which has long been one of our favorite and most valued charities, was intended principally for orphan boys; that it did not and could not extend its charge to vitiated children of twelve or fourteen years of age; and that it could not give employment to any of the children under its care: and that our House of Reformation, a municipal institute, receives, and can receive none except those, who shall be convicted of legal offences and shall be sent to it by a court of justice. A number of gentlemen in the city were therefore very desirous that an institution should be established here, to which children already corrupted or beyond parental control, and greatly exposed to corruption, and of any age,—a surrender having been made of them by their parents or guardians,—might be sent without the intervention of a legal conviction and sentence: and in which such employments might be pursued by the children as would make the institution in the strictest sense a school of industry," &c. The proposed Farm School was afterwards united with 'the Asylum for Indigent Boys,' and "The institution in its present form will comprehend all the benevolent objects of the projectors both of the Farm School and the Asylum."

This institution, it appears to us, constitutes one of the most important links in the chain of charity. The boys who are admitted are not, like the inmates of the

House of Reformation, stigmatized by vice and qualified by crime for receiving the benefits of the Asylum. Honest poverty here finds a refuge free from the contamination of evil communication, bad principles, and bad examples: and the little pupils are taught the most useful, healthful, and honorable of the arts, and thus qualified to become profitable and respectable members of society. It appears, however, by a statement made by Lieut. Gov. Armstrong, as well as by the "Report" above quoted, that the funds are not at present adequate to supply the wants and defray the expenses of the establishment on its present footing: a fact which, if generally known, would, we hope, elicit such donations from the wealthy and the charitable as would fully develope and beneficially employ its means of doing good.

Government of the Boys' Asylum and Farm School.—President, Samuel T. Armstrong; Vice-President, Jonathan Philips; Secretary, Edward S. Rand; Treasurer, William Hales; Managers—Francis Parkman, John Tappan, John D. Williams, Moses Grant, Joseph Tuckerman, Charles C. Paine, William Gray, Benjamin A. Gould, Henry B. Rogers, William H. Prescott, Henry Upham, Thomas G. Carey.

INDIAN CORN—RUTA BAGA INJURIOUS TO IT, &c.—The prospect for a fair crop of corn begins to brighten since the warm weather and the rain of the 16th, but the worms of different kinds and sorts have dealt hardly with it, and some fields are nearly ruined by them.

We have seen one field however which surpasses all others. It belongs to Mr. Eliphalet Folsom, of Monmouth. It is an early variety which he cultivates, and on the 15th was spindled out. Mr. F. has a farm with a soil of the right quality for it, and he has paid much attention to the cultivation of early varieties of crops, and by attention and care he succeeds remarkably well. The consequence is, that while his farm yields him a fair profit he does not suffer with that dreadful malady, the "Ohio Fever," which "*has carried so many off.*"

While looking over his corn fields we noticed one thing which we believe is invariably to be found (this year at least) in other places under like circumstances. It is this—wherever Ruta Baga was cultivated last year and Indian corn planted on the spot this year, the crop is small. One side of a field of his was planted last year to Ruta Baga, and the corn on that place this year, though manured as well as the other, is not more than half as high or good as the other.

We have seen this also in several other places. One in particular where the ground was highly manured this spring, but still it looks as if something was wanting, and does not grow. What does the Ruta Baga take from the soil that the corn needs?—[Maine Farmer.]

[From the Baltimore Farmer and Gardener.]

GIBBES' IMPROVED CORN.—We publish below, from the Yorkville (S. C.) Patriot, a brief though pithy correspondence between two practical farmers, on a subject of great moment to the agricultural interests. It was very happily said by Dean Swift, that "whoever could make two ears of corn, or two blades of grass, to grow upon a spot of ground where only one grew before, would deserve better of mankind, and do more essential service to his country, than the whole race of politicians put together," and we believe we may accord to each of those gentlemen the full measure of that meed of praise, without subjecting ourself to the imputation of being a flatterer.

The method of selecting his seed corn, as followed by Mr. Gibbes, is judicious, and we trust every agriculturist who raises a corn crop will take counsel from the result of his experience, and pursue the same course. Indeed, were planters and farmers, generally, to adopt this plan, with respect to the saving of their seed from the whole range of their several crops, we have no doubt but that the happiest effects would be the result of their labors, in their melioration and improvement. Domestic animals in Europe, and particularly in England, have been brought to their present perfection by selecting exclusively for breeding those combining the best points for the respective uses for which they were wanted; and we see no reason why the same law which regulates the economy of the animal kingdom may not, with equal success, be applied to the vegetable. The experiments of Mr. Gibbes, and those of every other gentleman who has made the trial, go to confirm the belief that such would be the case. We, therefore, are impelled to the belief, that by exercising due vigilance and proper care in selecting seed corn from none but such stalks as are vigorous and large in their growth, fruitful in their yield, and which may have borne two ears or more of good grain, and by being equally careful in the culture, that in a few years, our planters would be able to banish from their corn fields those unsightly dwarf stalks which yield nothing but nubbins, and reward the husbandman so indifferently well for his toils and his outlay.

September 17, 1834.

Friend: Two years last spring I obtained some of your seed Twin Corn. I send in return one stalk with five good ears on it, and if you improve said corn for the space of two years and return me a stalk with six ears, raised on the pleasant fields of Oakley farm, I will try to be able in two years after to return you a stalk raised on the fertile fields of Busrow farm with seven ears. With due respect and esteem, I am yours &c. OLD COL. GILL.

W. S. GIBBES.

Oakley Farm, Sept. 18, 1834.

Old Friend: I have to thank you for your note and stalk of corn with five good ears upon it, and must acknowledge that you can beat me with my own seed, and that I can show nothing like it; nor could I hope on my poor ridge of land to compete with your excellent farming on your flat bottoms—'tis now about 18 years since I first began to improve my corn, by selecting my seed from these stalks only which bore two ears; and the first year had difficulty to find as many stalks with two ears as would give me seed; but now, in a tolerable season, it is difficult to find a few stalks even with less than two, and from that to three and four good ears. The peculiar quality of my seed has shown itself particularly this year, when my whole crop has suffered so severely with drought, yet you see two ears or a struggle for it wherever my seed was sown; but two fields, sown each with different seed that had been highly recommended to me, there is scarcely a double eared stalk to be found in either—the few there are I shall carefully preserve and endeavor to improve, as I like the kind of grain rather better than that I am now cultivating. I shall preserve your five ears carefully also—plant them separately—and next year, Deo volente, let you know th result—though I can hardly expect my land can support and bring to maturity such prolific offspring. Believe me as ever, with regard, WILMOT S. GIBBES.

OLD COL. GILL.

[From the New-England Farmer.]

RECIPE FOR DESTROYING VERMIN OF ALL KINDS WHICH INFEST PLANTS. — Take of black soap (common soft soap) two and one half pounds, flour of sulphur two and one half pounds, mushrooms of any kind two pounds, water sixteen gallons; divide the water into equal parts, put half the water in a cask with the soap and mushrooms, after having bruised them a little: the other half of the water is to be boiled in a kettle with the sulphur enclosed in a bag and fixed to the bottom, with a stone or any other weight, during the ebullition of about twenty minutes. The bag must be stirred about with a stick, the better to impregnate the water, (by augmenting the ingredients the effect will be more sensible;) the water that has been thus boiled must then be poured into the cask and daily stirred with a stick, until it acquires the highest degree of rankness, care being always taken to cover up the cask after the water has been stirred. This composition is to be sprinkled or injected on the plants infested, and it will at the first injection destroy the greater part of the insects, but will require frequent repetitions to destroy those that live under ground, especially the ants. Two ounces of nux vomica added to the above composition, and boiled with the sulphur, will render the recipe still more effectual, especially when ants are to be destroyed. From experience I can say that nothing I ever tried has proved so efficacious in destroying insects, and at the same time it makes the plants grow luxuriantly. S.

Stockbridge, July 11, 1835.

By the Editor. — We are much obliged by the receipt of the above, and the more so on account of the efficacy of the prescriptions having been tested by the experiments of the gentleman who is so good as to communicate them. Further favors from the same hand would be gratefully received.

[From the New-England Farmer.]

PRESERVATION OF BUTTER.—Mr. Fessenden: Will you inform me which is the best kind of salt to be used in making butter, also how to pulverize rock salt, and oblige yours, A SUBSCRIBER.

By the Editor.—There have been some differences in opinion expressed by agriculturists and economists relative to the kind of salt which is best to be used for preserving butter. John Prince, Esq. procured eight samples of different sorts to be analysed by Dr. Webster, Professor of Chemistry of Harvard University, and the kinds of salt and the results of their analysis are given in the New-England Farmer. Mr. Prince draws the following conclusion from the process alluded to, viz.:

"After the examination of the different salts usually for sale in our market, I trust there need be no longer any fear in using them, on account of any bad properties they may have been supposed to possess; only bearing in mind that they should be used by *weight, not measure.* If for butter *I have no doubt the fine Liverpool* (or Eastport)*

* Some writers in the New-England Farmer had expressed an opinion that Liverpool salt was unwholesome and unfit for use.

is as good as any other, provided the butter be well made and thoroughly worked.

"I have for many years had no other used, till the past year I purchased the best Turk's Island I could find, and had it well washed and ground fine. We do not perceive the least difference in the butter, having used precisely the *same weight*.

"There is no doubt for packing *meat and fish the coarsest* salt should be used, as keeping the meat separate and being longer in dissolving."

[From the Genesee Farmer.]

A FARMER'S GARDEN.—The tending of a kitchen garden is regarded as rather an insignificant employment, by a large portion of those who cultivate the earth on a large scale, and seldom is it resorted to by the farmer, if any *business of importance* can be found on any other part of his premises. However, he generally considers it necessary to dig, (or more generally plough,) the ground early in the spring; but the planting and subsequent dressing are left principally to the female part of the family—to the children—or to some chance dull day, when he can work at nothing else. Now it appears to me that such a practice implies a very erroneous estimate of the value of a vegetable garden, the tending of which I consider not only worthy the special attention of the proprietor, during his leisure hours; but it would amply repay his care and skill, if occasionally employing the most busy periods of his time. But it would require a volume to describe a mere portion of the solid advantages and enjoyments to be derived from the cultivation of a productive garden. The table is supplied with vegetables, during the different seasons, affording the most nutricious and healthy aliment. And while he surveys the festive board, crowned with the rich repast from the bounteous hand of Nature, the farmer may learn to appreciate the charming results of his light and easy toil, so conducive to health and happiness, at the same time affording a rich reward for his care, and skill, and industry.

But one principal reason why so few take any pleasure in gardening is, that they are entirely ignorant of its proper management; and they will not take the pains to inform themselves respecting a few plain principles of this interesting branch of rural economy. Having the ground prepared and seed planted, if the soil has been thoroughly manured, (as every garden ought to be,) but little skill is requisite to ensure a plentiful return for the labor bestowed, *provided the season is wet*. If weeds are kept down, the vegetables will grow. But if the summer should be dry, as is the case with a large number of them in this climate, the farmer soon perceives that his plants begin to dwindle; and while remarking the change, he anticipates the partial or total failure with regret, supposing that there is no remedy for the effects of the drought. He therefore abandons the garden in despair, and erroneously concludes that all labor in dressing his plants under such circumstances will be thrown away. But the truth is, that this is the very period in which his labor is most needed, and in which it is most amply rewarded. For, if nature denies the requisite share of moisture from without, his only alternative is, to cherish and economise that which is already in the soil, and this may be best effected by any process that will prevent evaporation. By converting the surface of the ground into fine dust, you render it a poor conductor of heat. And hence the moisture that is continually rising in the form of vapor from the earth beneath, when it arrives at this fine covering, which is not penetrated by the heat of the sun, is diffused among the fine particles of earth, and instead of passing off rapidly, as is the case with a baked surface, it is retained a long time to nourish the roots of plants. This principle is familiarly illustrated by the simple experiment of taking a parcel of dust perfectly dry, and throwing it into a heap. In this situation it will soon become comparatively moist. Hence the practice with this fact would suggest. The surface of the garden should never be suffered to become baked, but as soon as the moisture shall have sufficiently dried after a rain, to admit of the earth being raked fine, it should be immediately moved in this way. The process will require but very little time, and it will have the double advantage of retaining the requisite degree of moisture in the earth, and at the same time effectually preventing the growth of weeds.

But there are circumstances in which vegetables may be much injured by the above mode of dressing the ground among them. Such, for instance, is the case with vines of various kinds, after they have arrived at a certain period. Beans, melons, cucumbers, &c. may be thus affected. I would say, let the ground be well dressed before the running period approaches. Let it first be put in fine order with a rake, and then covered with long straw from battens, or something equivalent. By using these means, the surface of the garden may be kept in a tolerable degree of moisture, even during a long drought in summer, as I have known from ample experience. And, simple as the suggestion may appear to the practical gardener, I am convinced that it is principally through neglect in attending to them, that we see so few good *farmers' gardens*.

HORTI CULTOR.

STRAW CUTTERS AND OTHER AGRICULTURAL IMPLEMENTS.—We spoke in another paragraph of the great saving which would accrue to the farmer or planter, by cutting the hay and straw with which he may feed his stock, and we will now call his attention to the several machines at present mostly approved of.

There is the 20 inch cylindrical straw cutter, suited to horse or water power, and competent to the cutting of from 75 to 100 bushels per hour. This, on a large estate, where time is emphatically money, would be found of immense value.

Of the same construction, there is the 14 inch box, suited to manual power, and the 11 inch box, also adapted to manual power, and both in high repute with agriculturists, being easily kept in order, and of great capacity. They are all self-feeders, and from the peculiar form of the knives, and mode of application to the straw or hay to be cut, can be worked a long time without sharpening, which circumstance is of itself of decided advantage.

And then there is the common Dutch Straw Cutter, with and without treadle, whose good service is familiar to a large number of farmers.

These several kinds range from 75, 45, 27, to $20, and even so low as $5.

When so much convenience is to be secured from such a small sum, with a positive certainty of saving one third the quantity of food, no farmer or planter should hesitate a moment, if he has not already done so, in supplying himself with a machine.

But while we are enumerating other inventions, we must not omit to name the straw cutter recently introduced by Mr. Secor, a neat, convenient machine, which appears to combine both the economy of time and power, and although a stranger among us, comes well commended to public favor.

Of *ploughs*, there is the Self-Sharpening, the Wood's, the McCormick's, the Sinclair & Moore's improved, the Bar Share, the Hill Side, the Shovel Plough, the Cary Plough, the Buffalo Plough, (an approximation to Mr. Jefferson's plan,) —these, of all their various numbers, sizes, and prices, have been so improved of late as to leave but a barren field for future essayists in improvement to glean in.

Nor should we here omit to mention that most excellent implement, the *Cultivator*, which, though neither plough nor harrow, answers a better purpose than either for *cultivation*. This is a machine which we fear is not sufficiently known; for, of a certainty, it is one of the best things introduced into the business of husbandry for fifty years, and deserves a conspicuous place on every farm.

But to conclude our article—we would in an especial manner call the attention of every raiser of corn throughout this land of mountain and dell, of endless rivers, and countless lakes, to the corn sheller; for in verity it is the most potent little labor-saver we have ever seen. We allude to the one with a vertical iron wheel, with spring holders, competent to be adapted to the size of any ears. These by hand will shell you out from 15 to 20 bushels of corn in an hour, and it does its work so notably, and with such becoming cleanliness, as to take every grain from off the ear. From witnessing its operation the other day, we should think it would cure a lazy fellow of the ague and fever, who would feed it for a day.

But then we have our misgivings about recommending so *positive* an *innovator* upon the good old fashioned customs of the country. One thing is certain, that wherever one of these vertical gentlemen may show his face, there will be an end to those delightful corn husking and shelling squeezes, whose discordant sounds, and boisterous revelry, come down to us hallowed by the fond associations of an hundred years.

Well, be it so, this is the age of invention, and why should not its march be extended to those who cause the fields to teem with vegetable life, as well as to any other class.

But badinage aside, one of these diminutive machines, by hand power, worked 12 hours in a day—and they do not occupy more space than a flour barrel on its end—would shell 500 barrels of corn in two weeks. What the saving would be, every farmer can calculate for himself, and therefore we will content ourself with simply saying, that the other day, in wit-

nessing a trial of its skill, we were literally astonished; before we thought the ear of corn was fairly in the sheller, it had performed its office, and the grains were lying at our feet.—[Balt. Farmer and Gardener.]

The Grain Worm is literally destroying our wheat fields. The product of this crop in our vicinity will probably not be equal to the seed sown, although but for the worm the prospect was flattering. We do not know how far south and west the evil has extended. Steeping the seed in brine, and liming it, has not proved to be a preventive. We invite communications on this subject.

The warm and wet weather in the month of July has also been prejudicial to the wheat crops, in causing rust, which it is well known checks the circulation of the sap, and causes the grain to shrivel. It is a received opinion, that the grain ceases to enlarge when it becomes badly affected with rust, and that it is most advisable to cut it, though not arrived at maturity.—[Cultivator.]

The neglected Ladies' Slipper.—We see by a notice in the August number of the Horticultural Register, that at a meeting of the London Horticultural Society, in May, a number of beautiful flowers were exhibited, and among them a *North American plant*, called the *Ladies' Slipper*, which, it is added, is the most brilliant plant that has ever been brought to England. So the poor neglected *Ladies' Slipper* has found favor at last! Than which, a more beautiful flower, one of richer or more varied hue, does not adorn a river; but it is *common*, and that is enough to seal its fate. We have in our view, while we are writing this, a giant stalk of *imperial purple flowers*, as double as leaves can make them, as glossy as satin, and in the *tout ensemble* presenting a sight more beautiful than Cleopatra in all her loveliness and glory; but still it is but a *ladies' slipper*—an American ladies' slipper, and like the prophet of old, it has to go out of its own country in search of honors.—[Balt. Farmer and Gardener.]

Bene Plant, a certain cure for the Summer Complaint.—The numerous applications for this valuable medical plant have induced us to raise a number to accommodate the demand, and it can now be had by applying to Robert Sinclair, Jr., at his seed store connected with this office. It is thus noticed in Fessenden's American Gardener: "A few leaves of the plant, when green, plunged a few times in a tumbler of water, makes it like a thin jelly, without taste or color, which children afflicted with the summer complaint will drink freely; it is said to be the best remedy ever discovered."

Editors by noticing the above in their papers, may be the means of saving the lives of hundreds of children, the efficacy of the plant being fully tested.—[Balt. Farmer and Gardener.]

[From the Cultivator.]

The Gooseberry is among our choicest garden fruits, and is one of the earliest species which is fit for the table. But in many locations it is subject to mildew, which not only blights the fruit, but the anticipations of the cultivator. Mildew, according to Darwin, is a plant of the fungus kind, which vegetates without light, or change of air, in the same manner as the generality of mushrooms; and penetrates with its roots the vessels or plants to which it adheres. Wyllich says it is a topical disease, only to be cured by a topical remedy. We have heard and seen somewhat ourselves of the effects of topical remedies, in which lime, salt, or sulphur, have constituted the preventive or cure of this disease, not only upon the gooseberry, but upon the grape, wheat, &c.

In the grape houses about Boston, and in our own grape house, sulphur is efficaciously employed in its dry state, dusted upon the young fruit, to prevent mildew, or to check it where it has already appeared. Here neither winds or rain occur to wash or blow it off; and one or two applications suffice for the season. It may be applied out doors in a liquid form, by first mixing the sulphur with milk, with which it incorporates—and then diluting freely with water, sprinkle it upon the leaves and fruit with a white-wash or other brush.

A weak brine, or salt, scattered about the roots of the gooseberry and grape, in May, is said to operate as a preventive. Before we were aware of it, we perceived our gooseberry crop affected with mildew, when the fruit was about the size of peas. We immediately applied a weak brine, and three days afterwards dusted the bushes with lime. The disease was checked, and the berries have continued to swell, and appear healthy. Whether the salt or lime were separately or jointly beneficial, we are unable to say; but the remedy seems to have proved effectual. In the application of either of these substances care must be taken not to apply them in excess, lest they should destroy the plant as well as its parasyte. Salt is best applied to vegetation in a liquid form, as it is then more equally distributed. Lord Manners applied it with great success, in the proportion of one ounce of salt to a gallon of water. Two ounces to a gallon proved hurtful to vegetation, but the second year the herbage where it was applied was abundant. All the land on the coast is treated with sea water in China and Hindostan. The utility of salt in preventing or destroying mildew has been announced by the Rev. E. Cartwright, of London, as a discovery of great importance to agriculture. He declares it to be an absolute remedy for the mildew in wheat. His directions are: take "salt one part, water eight; with this mixture let the diseased grain be sprinkled; in three or four days the mildew will vanish, leaving only a discoloration on the straw where it had dried off. Two hogsheads of the mixture will suffice for an acre. The best mode of applying it is with a white-wash brush, having a tin collar, made water tight, to prevent the mixture dripping down the operator's arm, and running to waste. The operator having a pail of the mixture in one hand, with the other dips the brush into it, and makes his regular casts as when sowing broadcast; in this way he will readily go over ten acres a day."

T. A. Stoughtenburgh, Esq., of Johnstown, has an east and a west high tight fence to his garden. His gooseberries on the east fence, he informs us, which do not get the morning sun, have been uniformly free from mildew; while those on the west fence, the soil at both being similar, are covered and spoilt by mildew. This has happened for years. In the compact part of Albany, in the small enclosures, excluded by buildings from the morning sun, the gooseberry is seldom affected with mildew.

The Currant, like the gooseberry, should be in every farmer's garden. The fruit of the red and white varieties is nutritive and pleasant, and affords in many ways nice dishes for the table. Like the gooseberry it is propagated by cuttings, and requires no great space or labor to make it profitable in the family, and for the market.

Propagation.—Take thrifty, well ripened shoots of the preceding season's growth, and cut them twelve to eighteen inches in length, and if it is desired to make them trees, or to grow them on a single stem, gouge out all the eyes with a sharp knife, except three or four upon the upper extremity, which are destined to form the branches. Cut the lower end square at a bud; it will sooner granulate, and throw out roots; and when planted insert two thirds of the cutting in well dug ground. The cuttings are best when taken off in autumn, soon after the leaves fall. They may be put out then, or, what is better, kept till spring, in a cellar, or buried in the ground. Thus every man may procure cuttings in autumn or winter to be planted in spring. They may be planted where they are to stand, or in a nursery bed, to be removed after one or two years. They may be planted in rows ten feet apart, and four feet in the rows.

The culture consists in digging the ground about the bushes in the spring, keeping down weeds, thinning the wood, and cutting in the long shoots.

The fruit may be used for culinary purposes while green, and in its ripe state is converted into wine, jelly, and is used extensively, in various ways, for the table, with other food, in which forms it is gently laxative, emollient, and sometimes anodyne. The jelly is grateful and cooling in fevers, and no less so as a conserve at table; and the wine affords an excellent summer drink, especially with the addition of water. Directions for making the jelly and wine will be found annexed.

Sorts.—There are two varieties of both red and white, termed the common and Dutch kinds, the latter growing on lower bushes, and affording larger fruit than the

common kind. The Champaign is another kind, distinguished principally by its pale color. Mr. K. has produced a sweet kind, not yet introduced into our culture.

"TO MAKE CURRANT JELLY.—Take the juice of red currants, 1 lb.; sugar, 6 oz. Boil down. Or,

Take the juice of red currants and white sugar, equal quantities; stir the mixture gently and smoothly for three hours; put it into glasses, and in three days it will concrete into a firm jelly."

FOR MAKING CURRANT WINE numerous methods have been published. The juice of the currant consists, principally, of water, saccharine matter, and vegetable mucilage. Its conversion into wine is effected by what is termed the vinous and spirituous fermentations, which transform the saccharine matter into alcohol. If the must, or expressed juice, is deficient in saccharine matter, the fermented liquor will be weak and vapid, and run into the acetous, or vinegar, and sometimes into the putrid fermentation. Hence the practice of adding sugar to the must, to give it body, &c. The more violent the spirituous fermentation, the more the strength of the liquor will be dissipated; and therefore the process should progress as slowly as possible, and under a temperature not exceeding 70°. The vinous and spirituous fermentations not only convert the sugar into spirits, but they separate the mucilage, or yeast, from the liquor, in a great measure, which latter then becomes clear and transparent. If the fermentation, in wine or cider, is checked, by natural or artificial means, before the saccharine matter is converted into spirits, the liquor remains proportionably sweet; but when the conversion is complete, the product is what is termed a dry liquor. If the mucilage is left in the cask after it has performed its office, it is apt to commingle again with the liquor, render it turbid, and induce, under a warm temperature, the acetous fermentation. Hence the practice, in some cases, of conducting the vinous fermentation in open vessels, and of *then* separating it from the scum and lees; and in other cases, of racking it off, before the action of summer heats upon it. We shall give directions for making wine in both these modes. The first is from the American Philosophical Transactions, and the latter from our friend Judge Patterson, of Columbia, who successfully adopted it for many years. For ourselves, we prefer the latter mode, though we think the brandy superfluous, where 80 lbs. sugar are employed in the fabrication of a barrel.

First mode.—Gather the currants when they are fully ripe, and dry; break them in a tub or vat; then press and measure the juice, to each gallon of which add two gallons of water, and to each gallon of the mixture put 2 1-2 lbs. sugar; agitate the whole till the sugar is dissolved, when it may be barrelled. The *juice* should not be left to stand during the night, as the fermentation ought not to take place till all the ingredients are compounded. Lay the bung lightly on the hole, to prevent flies, &c., creeping in, and in three weeks bung up, leaving only the vent-hole till it has fully done working, which will be about the latter end of October. Rack into a clean cask the spring following. For a barrel of 28 gallons will be required,

8 gallons currant juice,
16 gallons water,
4 gallons sugar, or 60 lbs.

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Second mode,—in which the vinous fermentation is managed in an open vessel. Pick and press the currants as before, and add two gallons of water to one of juice, and 80 lbs. of sugar to a barrel of 32 gallons. Stir well, and cover the must, in an open vessel, with a linen cloth; place it where the temperature is from 60° to 70°, and next day skim off the impurities which rise to the surface, and stir again the liquor. Repeat the operation as long as the scum rises. Then barrel, rejecting the lees, adding 2 1-2 gallons good brandy, and bung close. No racking is required.

In the last mode the vinous fermentation is completed before barrelling. The spirituous soon follows, if the temperature remains as high as 60°, and abates in 6 to 12 days.

If the wine becomes foul or ropy, take half an ounce of chalk in powder, half an ounce burnt alum, the white of an egg, and a pint of spring water; beat the whole in a mortar, pour it into the cask, and roll it ten minutes; and as soon as the wine becomes fine, rack it off.

REMARKS.—There is too much apathy among our farmers with respect to fruit. Strange as it may seem, it is no less strange than true, that while fruit affords the greatest profit of any branch of common husbandry, besides the pleasure of enjoying in abundance, as every farmer ought to do, it is a thing almost wholly neglected by common farmers as altogether beneath their notice. Even those who do not entirely neglect it, seem to think they do well if they have a few apple trees, which, without pruning, or any other attention, bear poor apples. Probably more than one half of our farmers never saw a handful of gooseberries in their lives. We think if some of them should visit some garden where they are in plenty, and in perfection, and after regaling with them pretty freely, get a treat of good currant wine, we should soon see them cultivating currants and gooseberries.

DEAR FRUIT.—Loudon's Magazine for June quotes the price of peaches in Covent Garden market, at 3*l.* ($13.32) per dozen, about 111 cents each! cherries at 1*l.* to 1*l.* 10*s.* per pound; and strawberries at 1*s.* to 1*s.* 6*d.* (22 to 33 cents) per ounce! These were of course forced fruits.

[From the Cultivator.]

Circular addressed to the Raisers, Inspectors, and Consumers of Hops.

At a meeting of the brewers of the State of New-York, convened in the city of New-York, 6th March, 1835, to take into consideration the causes of the present ruinous and improper practice of picking, curing, and inspection of hops, by which a very large proportion are rendered worse than useless, and others materially injured, a committee was appointed, and their chairman made the following report:

In presenting this communication, it is unnecessary to make any other remark to those interested, than to refer to the important facts that are here disclosed, to show that prompt and efficient measures ought to be taken to effect a radical change in the present system of picking and curing, as well as a corresponding change in the standard of inspection of hops.

We ask the patient indulgence of brewers, farmers, and inspectors, for the liberty we shall unavoidably be compelled to use, in pointing out the errors that have been fallen into. Your committee are aware of the great difference between persuading a man of the truth of any new proposition, with that of convincing him he is wrong, and satisfactorily inducing him to take the way of truth. We know we have one difficulty to contend with, to surmount which we are apprised will require not only all our ingenuity, but also all the forbearance of those concerned. This difficulty is the ready sale of hops in our market, in the imperfect condition they are now produced. The farmer would naturally enough ask why all this clamor about lupulin resin, early and late picking, while we can get 16 cents per pound, and 2,000 pounds per acre, near ($320 per acre,) per annum? This is all fair enough, and we will further admit, that some individual who may ask this question has himself produced hops worth the money, and as good an article as either this or any other country is capable of producing; but our complaint is that there are but very few of this fine quality, not one bale in ten. We think we speak advisedly, when we repeat, that out of the 8,500 bales, the produce of New-York and the eastern states, there may not be more than 8 or 900 bales in prime order; that we may be perfectly understood, we earnestly solicit a careful perusal of an analysis of hops by Dr. Ives, of New-York, and published in Silliman's Journal of Science, 2d volume. Since which, the attention of many of the first chemists and physicians, French, Scotch, and English, have carefully experimented on them, and the result has been nearly the same. In one *essential particular* they *all* agree, which is that the only valuable properties are contained in the resinous globules, which Dr. Ives calls lupulin. These globules are not formed until a few days before the hop is ripe, and if picked either a few days too soon or too late, the hop is an injury instead of being of any service, as they possess neither preservative nor medicinal qualities. The experiments of Dr. Ives are so nearly correct, and as he merits the gratitude of his countrymen for his labor and skill in first bringing these matters before the public, we will copy a part of them, that they may be the more extensively known, and hope the valuable and important facts they disclose may have their just influence in correcting the many errors that have obtained, in the picking, curing, and inspection of hops.

EXPERIMENTS.

"Two drachms of leaves of the blossom

of the hop, from which all the lupulin or farina had been separated, were digested 12 hours in six ounces of boiling water. The infusion was bitter and exceedingly unpleasant to the taste; it possessed none of the aromatic flavor and peculiar bitter of the lupulin. When filtered and evaporated, it yielded five grains of nauseous extract.

"The same leaves were again digested in six ounces of proof spirits; after 12 hours the infusion was filtrated, and by evaporation yielded five grains of extract similar to the last. The same leaves were digested 24 hours in alcohol: the infusions manifested none of the sensible properties of the hop; it gave by evaporation four grains of extract. The taste of none of the extractive matter obtained, from the leaves, was sufficiently characteristic of the hop to designate that it was obtained from that article.

"From this, and other similar experiments leading to the same results, I think it is conclusively proved that the virtue of the hop resides exclusively in the lupulin; that the leaves contain a nauseous extractive matter which is imparted to water and to alcohol, and which, instead of adding to the bitter and aromatic flavor of the lupulin, partially neutralizes or destroys it.

"The obvious inference from these results have, as I conceive, been demonstrated —that the lupulin alone contains the bitter principle and the aromatic flavor of the hop, which are essential to the excellence and preservation of malt liquor."

These discoveries of Dr. Ives, immediately brought the attention of M. M. Payne, and M. Chevallier, two of the most eminent chemists of France to this subject. The learned compiler of the Materia Medica, Brewster's Edinburgh Encyclopædia, Doctor John Bostock, M. D. F. R. S., Dr. Paris, an able, profound medical writer, all agree that the lupulin is the only valuable part of the hop; and Dr. Paris particularly mentions the hop as the most valuable ingredient in ale, its stomachic qualities powerfully aiding digestion, "and particularly useful to the lower classes, enabling them to digest their innutritive food;" he says Dr. Franklin was wrong in condemning ale, and deprecates "the disappearance of small beer from the tables of the rich, as there was nothing to replace the tonic of the hop."

From the above authorities there is one certain fact established, which proves conclusively that the leaves forming the pod of the hop contain nothing of value for the purpose of brewing; an acrid nauseous bitter, the only properties they possess.

In looking back to the qualities of hops the markets for the last fifteen years have furnished, our opinion is, that the standard has gradually deteriorated; many are now branded firsts which have been picked before the resin had begun to form in them, and a very large proportion of those branded firsts are picked before the hops are ripe, and the resin or lupulin but partially appearing, being only sap, as soon as dry it is dissipated, and very shortly after, not even the smell of the aroma is perceptible.

This principal error of picking hops before they have arrived at maturity, is followed by another, as far as it goes, equally pernicious; using brimstone to give them the appearance of maturity,—hence our markets are furnished with first-rate hop pods or leaves, without any lupulin, possessing only the nauseous, acrid bitter, of unripe vegetation, and charged with sulphuric acid, the most deleterious matter to a vinous fermentation.

Various circumstances have combined to bring about this lamentable state of things. The inspector is not the principal in fault for branding as firsts those which are *refuse* from early picking and brimstone. This error no doubt had its origin with mistaken men conducting the brewing business, and ignorant of either the culture, curing, or their essential properties. These men wanted hops that would impart no color to their liquor, and advised the inspectors, that hops, when ripe, were refuse, because when ripe, the leaves forming the head of the hop acquired a brown or yellow tinge, slightly coloring the ale; consequently, the inspectors have branded those hops *firsts*, which are gathered *green*, before the lupulin is formed in them, and from this ill-advised source, brimstone has been introduced and applied to both early and late picked hops; to the early, to take away the green, and to the late, to take away the brown color, and bleach them all to the imaginary pale ale standard. By this pernicious course, the rinds, if we may so term them, are substituted for the fruit, and for the wholesale aromatic resin, we are presented with an acrid, unhealthy bitter.

"Another cause may explain why our markets are yearly retrogading, which is, the early demand for shipping, or a scarcity among the brewers; hence often enormous prices are paid for trash, not worth the cartage for manure. This early demand makes numbers eager to avail themselves of the chance of advanced prices and the first sales, while they run no risk of the inspectors condemning them, from early picking. The farmers also find their interests served in early picking, as it gives a much longer time for harvest, enabling them with but trifling help, and less kiln room, to secure their crop: and can we blame them, while brewers and inspectors second their wishes?

We have no personal feelings, nor intend attaching censure to any individual; but insist that our present standard of inspection is an imposition; it does not indicate the maturity or intrinsic value of the hops. To be a competent judge of hops, requires experience, and a nice discrimination; it is impossible for any man to decide, correctly, unless he is capable of distinguishing every peculiar odor that hops may have; his sense of smell must be acute; it is not enough that the hops are dry, that they look well on the outside, that they have not been heated, smoked, stewed, brimstoned, or burnt: they must have the strong, pungent, aromatic smell of the hop when ripe, and just plucked from the stem; they must have the small globules of resin or lupulin, like gems surrounding the cove of the pod, and covering the bottom of the calyxes or leaves; without this lupulin they are refuse. All which is respectfully submitted.

L. Fidler, Chairman.

Resolved,—That this report meet the approbation of the trade.

R. Boyd, President.
M. Vassar, Secretary.

The above report was transmitted to the brewers of Pennsylvania, and the following gentlemen were appointed a committee, who concurred with the brewers of the state of New-York, in the adoption of the above report.

George Pepper, Frederick Gaul & Sons; Samuel N. Gray; Hutchinson & Stump; Abbott, Newlin & Co., Francis & W. J. Perot; M. L. Dawson; Thos. C. Luders.

Philadelphia, June 18, 1835.

[We have received for publication the circular of the Pennsylvania brewers, which we deem it unnecessary to insert, as the opinions it expresses accord with those in the preceding circular.]

Remarks of the Conductor.—We cheerfully give insertion to the above communication, as containing matter worthy the notice of farmers, particularly of the hop grower. And we beg leave to suggest to the worthy fraternity of brewers, as the most ready and efficient means of improving the hop culture, the propriety of offering liberal premiums for the best samples of hops that shall be exhibited at the Albany October Fair. This is a great hop market, and the crop will then be mostly ready for sale. It will be the means of congregating together the growers, buyers, and inspectors; of instructing all in the criteria which indicate the first quality; of demonstrating the relative value of good and bad parcels; and of instructing the growers in the best methods of curing their crops. Let a judicious committee be appointed, to decide on the relative merits of the parcels shown; to point out defects, explain the causes of them; and to report facts, with directions for managing the curing process. All parties would be benefitted by the arrangement here recommended.

Cob Meal.—Jesse Buel: Respected Friend,—From the favorable observations of intelligent persons relating to the use of corn and cobs ground together as food for cattle, I have had a cast iron mill recently put up for the purpose of crushing them. Not having noticed any remarks on this subject in the Cultivator, I shall yet be glad to avail myself of thy experience and judgment as to the best mode of preparing and feeding such meal. I do not wish the pages of your useful paper occupied with that which is interesting only to myself or to a few of its readers—but if the use of the corn cob as food for cattle is of sufficient general interest to give an article upon it, I, for one, shall be gratified to learn if it be better to grind them alone with the corn, or to mix oats in the hopper, should the meal be fed dry, or wet, separately, or mixed with cut hay, cut straw, or cut stalks; at what times and in what quantities?

A pretty extensive feeder for the Philadelphia market once told me, that a bushel of meal made of corn and cobs was quite equal to a bushel of meal made of corn and oats, that his cattle throve as fast on the former, and that they never stalled (cloyed) on it.

I use the present opportunity to bespeak a sufficient quantity of thy "Dutton" seed corn to plant 12 acres the next season, say 2½ bushels shelled.

With much respect, thy friend,
R. White, Jr.

Shrewsbury, N. J., 6th Mo. 27, 1835.

In confirmation of the great economy in *preparing* food for animals, one of the aldermen of New-York city told me, that at their public yard, (where the previous year they had fed out hay and oats whole,) by the cutting of the hay and grinding the oats, 8 bushels of oats and 15 cwt. of hay fed the same number of horses, doing the same work, the same length of time, and kept them in as good order, as 34 bushels of oats and 35 cwt. of hay had done when fed whole!! R. W. Jr.

Remarks of the Conductor.—The cobs of corn undoubtedly contain much nutriment. P. Minor, of Virginia, [see Am. Farmer, Vol. 1, p. 324,] has given us the results of

a nicely conducted experiment to ascertain the amount of this nutriment. He took ten bushels of corn and cob, weighing 367 lbs. and ten bushels of shelled corn, and subjected them to the process of distillation. The product of the corn and cob was 13 gallons of spirits, and of the pure corn 18 gallons. Estimating that the ten bushels of corn and cob would have given five bushels of shelled corn, which is the general proportion, there will be left, as the product of the five bushels of cobs, four gallons of spirit, or nearly half as much as was afforded by five bushels of corn. Mr. Minor remarks that the cob affords other nutritive matter than the saccharine, which is converted into alcohol, as mucilage and oils. We have besides abundant testimony, in the practice of eminent farmers, of the utility of feeding cob-meal to animals, always mixed, we believe, with meal of the corn or oats. Cob-and-corn-meal is improved by scalding; still more, for hogs, by boiling, with potatoes, apples and pumpkins; and yet more by a partial fermentation. All these preparations facilitate digestion. An animal high fed with raw grain, whether horse, hog, or ox, voids much of its food in an undigested state, which is of course lost for all beneficial purposes. Grinding grain for animal food, therefore, is universally admitted to be economical, and cooking and partially fermenting it, it is no less true, further enhances its value for swine. Even the water in which it is cooked augments its nutritious properties, in consequence, probably, of some chemical change effected by the boiling operation. Fish subsist in pure water, as is strikingly illustrated in the management of the gold fish. The experiments of the Rev. H. Colman, in fattening swine, further warrant this operation. "At first," says this nice observer, "we employed half a bushel of Indian meal to make a kettle full of hasty pudding; but we soon found that a peck of meal, by taking up all the water it could be made to absorb, in a thorough boiling, would make the same kettle full (holding five pails) of sufficient consistency." In giving cob-meal to horses and neat cattle, that are fed with cut hay or straw, there is an undoubted advantage, at least so it is stated by those who are well experienced, in feeding the grain and hay together. The grain, especially corn, is sometimes too heating to horses, and this tendency is counteracted by the stimulus of distension, afforded by the hay and straw. Mixed feed of this sort may be fed thrice in 24 hours. It is eaten in so short a time as to afford much beneficial rest to the animal. We would call the reader's attention to the facts stated in Mr. White's postscript.

WOOL AND HAIR are known to possess highly fertilizing properties—they are, in reality, like bone and horn, concentrated manure. Until recently, refuse flocks of either could not be obtained in any considerable quantity: but our manufactories now afford them to such an extent as to entitle them to the farmer's notice. We have employed hair, combined with oil, from a seal skin manufactory, in considerable quantity, and with the best effect. Woolen factories furnish considerable waste flocks, combined with grease and dirt. Mr. Jabez Burroughs, of Watervliet, has been experimenting with these, and informs us that they exceed all other manures, when applied in one third the quantity that hog manure is applied.—[Cultivator.]

[From the Cultivator.]

BEET SUGAR, &c.—J. Buel, Esq.: Sir,—I recollect a few years since of seeing an account of sugar being made somewhat extensively, in some parts of France, from beets. As this part of the country is at some distance from the sea-board, and also destitute of the sugar maple, which renders sweetening quite expensive, if you are acquainted with the kind of beet used, together with the process of manufacturing, you will oblige many of your subscribers by inserting the same in the Cultivator. Or, if you are acquainted with any other substitute, it would be equally acceptable.

Should it not be foreign to the object of your paper, will you please to give us a recipe for making "India Rubber Varnish," for rendering leather water-proof? And here, permit me, without being suspected of flattery, to add my name to the list of encomiasts of your valuable paper. I think the two first numbers of the second volume are worth the price of the year's subscription; at least they are so to me.

Yours, respectfully,
WM. A. JONES.

Dexter, (Mich.) May 12, 1835.

Reply.—Mr. Jones' inquiry may be important to the far west, for the reasons he has stated. We therefore subjoin a description of the process of making beet sugar, as given by Chaptal, who was at the same time an extensive manufacturer of the article, and an eminent chemist, with some other facts connected with the subject. Our quotation is from Orfila's Practical Chemistry, p. 129–30.

"The beets are sown at the end of March or in April, [last of April or first of May with us,] when frost is no longer to be apprehended; it seems nearly indifferent whether the seed of the red, yellow, or white beets are taken. The earth most proper for their cultivation is that which has depth, and at the same time is light and rich; that which comes from the clearing up of meadows, alluvial soil dunged and long worked, are preferred for this purpose. These grounds should be prepared by two or three very deep ploughings, and a sufficient quantity of manure. The beets are sown at random, like wheat, and it is then harrowed; this mode has more advantages than that of sowing by the hand, the drill plough, on beds, or in the nursery. All the plants which grow near the beets, and whose vicinity is very hurtful to them, are pulled up by the hand or a weeding hook. The period of taking up this plant differs greatly, according to the climate; in the environs of Paris, and even at forty or fifty leagues from the capital, we should proceed to take them up in the beginning of October, whilst in the middle countries this operation should take place much sooner; without attending to this, it happens that the sugar formed is decomposed by the process of vegetation, and is replaced by nitrate of potash.

"After stripping the beets of their leaves, they are placed in the open air, on a very dry soil, beyond the reach of inundation, and which is covered with some pebbles and straw: the beets are placed in beds, in the centre of which a hole is left to give exit to the vapor, and the beds are covered with straw. These precautions are indispensable—since, on the one hand, the beets freeze at 1° to 0°, (32 to 34°, Fah.,) and on the other, they germinate at 8 or 9°, (48°, Fah.,) especially if the air is moist. It would be more convenient to preserve them in barns and granaries; but it is almost impossible to find a situation of this kind capable of holding all the beets we want. If, nevertheless, we choose to put them into magazines, we must, 1, leave them in the field some days to dry; 2, uncover them when the temperature is only a few degrees above zero, unless it rains; 3, separate the heaps, remove the frozen or putrified beets, and renew the beds, [piles.]

"*Extraction of the Sugar.*—We cut off the necks and small roots of the beets, and scrape the surface with knives. They are reduced to a pulp by means of cylindric graters, [similar, probably, to our grater cider mills,] moved rapidly with the hand, or by some contrivance. The pulp is pressed, at first, in small lever presses, and then by much more powerful ones; by this plan, we procure from 65 to 75 per cent of juice, which marks from five to ten on Baum's areometer. This juice contains, besides those substances found in the juice of the sugar cane, malic and acetic acids, and scarcely will it afford more than three or four per cent. of sugar. It is received in a boiler called the clarifyer, which is heated when one-third or one-half filled. When the temperature is 65 or 66° (Cent. = 150° Fah.) the fire is stifled. We then throw into the boiler about 48 grains of lime, slaked with warm water, for every quart of juice, and the liquor is then brought nearly to ebullition; it is taken from the fire, and on its surface is soon perceived a layer, which is skimmed off. The liquid is then made to run out by means of a stop-cock fixed at the distance of a foot from the bottom of the boiler.

"The liquid is quickly boiled, and sulphuric acid diluted with 20 parts of water is poured on in the proportion of one-tenth of the lime employed; it is stirred, and it is better the mixture should have a slight excess of lime than of acid. We mix with the liquor 3-100 of animal charcoal, perfectly fine; for instance, that which is produced in the preparation of Prussian blue. Immediately afterwards, we add half of the charcoal which has served in a former process, and the boiling is continued until the liquid marks 18° or 20° on the areometer; it is suffered to rest until the next day, when it is strained through a woollen cloth; it is then put into a round boiler, two feet in breadth and ten inches high; this is one-third filled, and it is again boiled. If the contents are burned, the fire is relaxed, and the liquor is stirred; if the bath foams much, a little butter is thrown in, and the heat

moderated. The boiling is ended, when, on taking a little of the syrup between the thumb and fore-finger, and quickly separating them, a thread is formed, which breaks *dry*. At this period the fire is covered, and after some minutes the syrup is poured into *coolers*, and from thence into the cones"— after which it may be subjected to the processes of *refining* or *claying*, like West-India sugar.

The manufacture of beet sugar was prosecuted in France extensively during the late war; but on the return of peace, was in a measure abandoned. It has recently been revived, and is said to be rapidly increasing; and land for beet culture lets for a higher rent than any other production. About 18,000,000 pounds, or 18,000 tons, are said to be produced annually, and the profits are so great that it has been recommended to the French legislature to tax it for revenue.

According to the tables of Dubrunfaut, the average product, in Flanders, in ten cases cited, was 23,751 killograms the hectare. The killogramme is about 2½ pounds; the hectare 2½ acres. He estimates the raw sugar at four per cent. on the weight of the roots, the pulp to be worth 12 francs (about $2.28) per ton, for feeding stock, and the molasses worth something additional for distillation. Dr. Achard obtained 6 lbs. 3 oz. raw sugar from a quintal of roots. Dubrunfaut estimates the cost of the sugar to the producer at about five cents per pound; at the manufactory of M. Crespell, the cost was 6 to 7 cents per pound.

Chemistry has discovered a new material for sugar, in wheat, the great staple of the west. It was first announced by a Russian chemist, M. Kirchoff, that starch may be converted into sugar, by being boiled for some time in very dilute sulphuric acid; and M. The. Saussure found that 100 parts of starch made 110 per cent. of sugar, and he concluded that sugar is merely a compound of starch and water. According to M. Berzelius, starch and common sugar are thus composed, though other chemists make the component parts of sugar somewhat different: Starch—Oxygen 49.6, Carbon 43.5, Hydrogen 7.0; Sugar—Oxygen 49.856, Carbon 43.265, Hydrogen, 6.879. Hence, the abstraction of a little hydrogen and carbon would convert starch into sugar.—[See Brewster's Encyclopedia.]

The butternut affords sugar. We have a sample before us. The maker informs us that the butternut yields as much saccharine matter as the maple. Our sample is not well granulated, having been merely made as an experiment.

[From the same.]

THE MADDER CROP.—Hon. J. Buel: Sir, As I consider the madder crop to be one of importance, as well to the grower of the article as to the country at large, I deem it proper to send you a few lines, giving some details of the most improved method of cultivating and preparing the article for use; which, if you deem them worthy a place in the Cultivator, you are at liberty to insert.

The land best adapted to this crop is a retentive, strong, loam soil, moist, but so situated that the water may pass off in the wet seasons of the year. The plant accommodates itself to almost any soil; for I last fall harvested a piece that yielded at the rate of 5,000 pounds to the acre, (in hills,) which was in a dry loamy soil, suitable for the wheat or corn crop.

The method of planting has been formerly in hills, from four to six feet apart. The hills yielded from two to three pounds of ground madder each, on good land.

Madder growers have lately made great improvements in the mode of planting. The drill method was introduced two or three years since, and is now the only way practised by those who raise madder in any considerable quantities. The first drills that were planted were set in single rows, about six feet apart, and eighteen inches from plant to plant. These were found to be too near together, both for the good of the crop and the convenience of tending it. It is now ascertained that the best method of planting madder is in beds six feet wide, with four rows of plants to a bed, leaving a space between the beds nine feet wide unoccupied; or it may be planted with rows of corn or potatoes the first season. This space is useful for various purposes, as passing with a team to carry manure, should it be considered necessary during the first and second seasons. The manure should be cropped between the beds, and mixed with a plough before it is used in the beds.

Particular care should be taken at the time of planting, that the ground be not too dry. It should be covered with clear, moist dirt, about two or two and a half inches deep. Soon as it has come up, it should be carefully hoed and cleared from weeds. When it is six or eight inches high, the tops should be covered up nearly to the ends; and covered again soon as they are six or eight inches high, as before. In the fall, before the frost kills the tops, they should be covered entirely up. It is then left to lie till the next spring. It should be managed in the same manner during the second as the first season; but requires only two dressings before covering up in the fall. During the third season it should be dressed once certainly, and twice if practicable; and by this time the tops may be expected to cover the ground nearly from one bed to the other. During the fourth season, it requires no attention till the time for digging, which may be any time in the months of September or October. At digging time, the tops should be cut off with a scythe, rolled out of the way; then, with a plough, cut a deep furrow on each side of the bed, afterwards take dungforks and shake the dirt from the roots. They may then be picked up. Proceed in this manner till the whole bed is dug; washed clean, and dried in a hop kiln. A stove is preferable to charcoal for drying. Fifty bushels of roots may be dried in a kiln 12 feet square. They should be turned while in the kiln, at least once in six hours, until they are thoroughly dried, which takes from 36 to 40 hours. When taken out of the kiln, they should be taken immediately to the mill for grinding. Madder has formerly been ground in grist mills, but a much more convenient and economical way is to grind in cast iron mills constructed expressly for grinding madder. They also answer a valuable purpose for grinding coarse grain for provender, in sections of country where grist mills are not near by. They may be propelled by horse power, (one horse being sufficient,) or by water power if it is convenient. One of these mills will grind 800 or 1,000 pounds a day with one horse. Improved mills of this kind can be obtained by applying to me, at West-Winfield, Herkimer county, or Lester Curtis, Nelson, Madison county. Orders for mills will be promptly attended to: price $20.

The following bill exhibits nearly the cost of cultivating an acre of madder, including the expense of digging, drying, and grinding.

Seed per acre,	$32 00
Interest of land, 4 years at $40,	11 20
Ploughing and harrowing twice,	2 50
Planting,	2 00
Dressing first year,	8 00
" second "	7 00
" third "	3 00
Digging,	21 00
Drying, 25c. per cwt.,	12 50
Grinding " "	12 50
Total cost,	111 70
Product if well cultivated, 5,000 pounds, at 20c. per pound,	1,000 00
Deduct cost,	111 70
Nett profit,	$888 30

A good crop of madder looks small the first season, but those interested need not be discouraged. I have now planted nine acres, and shall be ready at the season for digging to supply seed to a considerable amount. Those who wish for seed had better obtain it in the fall. Quantity per acre as I plant, 8 bushels.

Price of seed: Under six bushels, $4 per bushel; over 6 and under 12 bushels, $3·50; over 12 bushels, $3.

Respectfully yours,
HERBERT WOODBERRY.

West-Winfield, N. Y., July 20, 1835.

CLOVER IN N. CAROLINA.—The Farmer's Reporter, published at Salem, North Carolina, contains the following gratifying intelligence. We say gratifying, because it shows that the farmers in that part of the patriotic state which gave birth to the Mecklenburgh declaration of independence—the first written declaration on record—have at last commenced the good work of regenerating the soil, and in so doing have laid hold of one of the most efficient agents known to husbandry. We say again, we are gratified, for without affectation we can affirm that to the improvement of the soil, we are wedded by an affection which recognizes no medium, and rejects all compromise. The example thus nobly set we fondly hope may prove contagious, and spread throughout the state.

"*Clover.*—We are pleased to state that several of our farmers have engaged somewhat extensively in the cultivation of clover, and the results have been very flattering. One of these gentlemen has secured twenty-two loads of hay, and intends to persevere in the cultivation of this valuable grass, for which purpose he is maturing a considerable quantity of seed.

We hope that these gentlemen will not only continue to receive a rich reward for their labors, but that their example may stimulate others to adopt a similar course, by which their land may be considerably improved, and consequently increase in value."—[Balt. Farmer and Gardener.]

[From the Journal of the Franklin Institute.]

Abstract of the Specification of a Patent for a Machine for Moulding Bricks. Granted to WILLIAM C. GRIMES, of York, in the county of York, in the State of Pennsylvania, Dec. 2d, 1834.

This machine is constructed upon the following general principles. A wheel is affixed horizontally to, and revolves with, an upright shaft, the latter being properly supported above and below by a suitable step and box, in which its gudgeons turn. The moulds in which the bricks are to be formed are placed around and upon the face, or upper side, of the wheel, near its periphery; these may stand in the direction of radii from the centre of the wheel, or otherwise. Two or more moulds may be united or connected together A hopper, or trough, of sufficient capacity, is placed in an inclined position, with its lower end over one or more of the moulds at a time, as they pass under it. This hopper is to contain the tempered clay of which the bricks are to be made, and though that part of the bottom of it which projects over the mould, or moulds, an opening, or openings, are made of the length and width of a brick, through which the clay is to descend into the moulds. The motion of the wheels is not to be continuous, but intermitting; while it is at rest, a mould is immediately beneath the opening in the bottom of the hopper, or trough, and the clay is then forced by a piston down into it; the piston then rises, and the wheel moves, and the moulds are thus filled in succession. As the filled moulds pass round upon the wheel, they are removed, and replaced by empty ones.

It is manifest that two or more moulds may be filled at the same time, by the use of two or more openings and pistons, and the employment of such other devices as may thereby be rendered necessary, sufficient power being applied for that purpose.

The number of moulds will depend upon the diameter of the wheel, which will admit of considerable variation, but from four to six feet I think the most convenient.

The moulds must be slightly attached to the face of the wheel, which may be done in various ways, the following being among the best. From the under side of the moulds project two dowel pins, which fit into corresponding holes in the face of the wheel, by which means the moulds are kept from any lateral or horizontal movement. The dowel pins should be short, so that the moulds may be readily disengaged from the wheel. The holes for the pins, or dowels, in the face of the wheel, should be pierced through it, so as to prevent them from being filled, or choked with dirt, &c.

Two or more moulds may be united in one frame, as is usual in brick moulds. The frames of the moulds are inclined from each other, like key-stones, so as to stand as radii from the centre of the wheel, thus forming the proper arch or curvature around the wheel, and their upper surfaces should form a true plane. Each frame of moulds has a thin plate, or board, which is equal in length and breadth to its corresponding frame, and forms the bottom or bed of the moulds. The aforesaid dowel pins pass loosely through holes made for the purpose in this plate; the latter not being otherwise fastened to the moulds, its use will be apparent to any one acquainted with the usual mode of moulding bricks.

The machine may receive its motion by a strap, carried around the fly-wheel, and over a drum, or pulley, which last may be driven by any competent power; or the machine may receive its motion by a crank attached to the fly-wheel shaft, or in any other convenient mode.

I do not mean to confine myself to the particular form or arrangement of the parts as before specified, but to vary them as experience or convenience may dictate, whilst the general principle remains unchanged.

What I claim as new, and as my invention, and for which I ask letters patent, is, 1st. The moulding of brick upon, or in moulds upon, the face of a revolving horizontal wheel, disk, or rim, constructed and acting upon the principle herein specified.

2d. The manner of forcing the clay into the moulds, by the combined action of a feeder and piston.

3d. The general construction and combination of the respective parts of the above described machine, from which general combination it derives that character by which it will be readily distinguished, by any competent machinist, from the various machines for moulding bricks already in use.

And I do hereby declare that I do not intend to claim as my invention, the piston, cranks, hopper, or any other part of the said machine, taken separately and individually, as these may constitute the elements of other machines; but, as aforesaid, the construction and combination of these parts upon the principle by me devised, and herein fully exemplified.

WILLIAM C. GRIMES.

The foregoing comprises about one-half of the specification, the remainder generally referring to the drawings. The same remark will apply to the next patent, and also to those for making nails. The machines manifest much ingenuity, and an account of their performance, when completed, has been promised, which, if satisfactory, will appear in the Journal. —[ED. J. F. I.]

Abstract of the Specification of a Patent for a Machine for Pressing Bricks. Granted to WILLIAM C. GRIMES, of York, York county, Pennsylvania, December 2d, 1834.

The general principle of the construction and operation of this machine is briefly as follows.

Upon a vertical shaft, or spindle, is fixed a wheel, disk, or rim, of sufficient size, which is to revolve horizontally. In the upper face of this wheel are a number of holes, or mortises, which are the moulds in which the bricks are to be pressed. The bottoms of these moulds are not a fixed portion of the moulding wheel, but are the upper faces of movable pistons, that slide up and down in the moulds, as the wheel revolves. The rods, or posts, which support and guide the pistons, descending vertically from them. The lower ends of the piston rods, or posts, slide round as the wheel revolves, upon a circular horizontal platform, or rim, or rather upon two platforms, one-half of the circle, or thereabouts, being elevated above the other about two or three inches. When the pistons rest upon this elevated portion of the circular rim, or platform, their upper faces are flush with, or above, the upper surface of the wheel; hence the bricks which have been pressed, being thus raised, can be removed with facility; while upon the opposite side of the wheel, the pistons upon the lower portions of the rim have their upper surfaces sunk down within the moulds, leaving cavities into which the bricks are dropped, as the pistons are depressed, the motion of the wheel, which is intermitting, not being too rapid for that purpose.

Just before the pistons rise on to the elevated portion of the circular rim, they pass under the short end of a strong iron lever, which projects over the face of the horizontal moulding wheel, far enough to cover the moulds as they pass under it. The level receives a continuous motion from a crank and shackle bar, the latter being jointed to the opposite, or long end, of the lever. The crank is regulated and assisted by a heavy fly-wheel, in passing that point in which there is the greatest resistance to its motion.

While a brick is being pressed by the short end of the lever, the moulding wheel is at rest, as it receives its motion by a pall, or movable hand, that has a vibratory or reciprocating motion, which it receives from a crank fixed for that purpose on to the end of the fly-wheel shaft.

The horizontal moulding wheel may be of iron, and cast in one entire piece, of such thickness as may be necessary to its strength, the requisite depth of the moulds being formed by a flanch, rim, or projection, standing out upon the face of the wheel, the said rim, or flanch, making the sides and ends of the moulds. The moulds being in a circle, are placed as near to the periphery of the wheel as a proper thickness of metal will allow; the inner ends of the moulds may approach very near to each other, leaving only sufficient strength of metal between them; hence it may be seen that the number of moulds in the face of the wheel will depend entirely upon its diameter, which may be very much varied, but from three to six feet I think the most suitable.

The moulding wheel, pistons, horizontal rim, and fly-wheel, should consist of cast iron, and, in fact, the whole machine should be made of metal.

Motion may be given to the machine by a strap, carried round the fly-wheel, or by the crank attached to the end of the fly-wheel shaft, which may project beyond its bearing for that purpose.

I do not mean to confine myself to the particular form and arrangement of the parts as before specified, but to vary them as experience or convenience may dictate, whilst the general principle remains unchanged.

What I claim as new, and as my invention, in the above described machine for pressing brick, and for which I ask letters patent, is—

1st. The revolving horizontal wheel of moulds, constructed in the manner, or upon the principle, herein described, in which the processes of putting in, pressing, and removing the bricks from the moulds, are all done at one and the same time.

2d. I also claim the revolving pistons, as connected with the revolving moulds, and operating in the manner, or upon the principle, set forth in the foregoing specification.

3d. I also claim the employment of the stationary rim with a double platform, for raising and depressing the pistons, as before described.

4th. I also claim the scolloped rim, or flanch, for the purposes hereinbefore set forth.

5th. I also claim the pressing of brick by means of a lever, operating, and operated upon, as herein shown.

6th. I also claim the general construction and combination of the respective parts of the above described machine, from which general combination it derives that character by which any competent machinist will readily distinguish i from any of the brick pressing machines previously in use. But I do not claim the pistons, fly-wheel, shafts, or any other part, taken individually, as these may constitute the elements of other machines; but, as aforesaid, the construction and combination of these parts upon the principle by me devised, and herein fully exemplified. WILLIAM C. GRIMES.

[From the N. Y. Mechanics' Magazine.]

MR. BURDEN'S SPIKES. — The public has already had the means of knowing that the above named enterprizing individual invented, some years since, a machine for making spikes of wrought iron, chiefly for the purposes of being used in constructing ships and railroads; but their value, compared with other spikes, seems to be but very sparingly known. These spikes, to any competent judge, will show themselves to be far superior to any spikes ever manufactured, or which can be manufactured for the above purposes, for the following reasons. The iron being selected by Mr. B. himself, and in large quantities of the first quality, no other being used, its uniform excellence must infinitely surpass that of common spikes, which are made of such small lots of iron as come to hand promiscuously; the body of these spikes being of exactly even and uniform size, and without hammer strokes, when once entered they have no tendency to split the wood, and, having a square chisel shaped edge, they cut their passage instead of forcing it.

But Mr. B. is emphatically an experimentalist, and he wished to test the comparative value of his spikes by some precise data. He wished to ascertain first with what degree of safety his spikes might be driven into wood without splitting; second, what was the tenacity of the iron; and third, what power it would require to draw them out.

To test the first point, he took a piece of seasoned white oak joist, 3 by 6 inches, and sawing off 3 inches, produced, of course, a piece 3 inches square and 6 inches long, but with the grain running crosswise. In one end of this block, he entered, without boring, the point of a spike 5 inches long, with the edge of its point across the grain, and drove in the whole length without splitting the block.

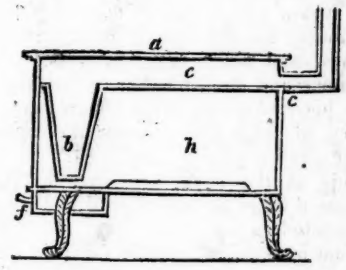
To ascertain the second and third points, he drove another and similar spike into a similar block, leaving its head a little distance out, and securing the block in a firm situation, and griping the head by a strong instrument similar to a pair of wire tongs, he suspended to the tongs 100 56-pound weights, equal to 5600 pounds, and these neither breaking the spike nor drawing it out, he took a sledge and struck forcibly upon the apparatus attached to the head of the spike, when it drew out and left the spike and the wood unbroken.

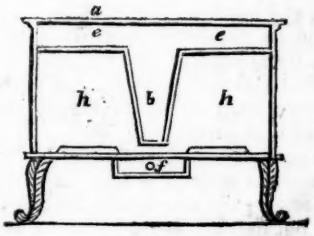
These experiments were made at the store of Messrs. I. & J. Townsend, in this city, in presence of the President and Directors of the Albany and Schenectady Railroad Company, and if they do not remove all doubts as to the superiority of these spikes for ships and railroads, I know not what would. S. B.

Albany, June 15, 1835.

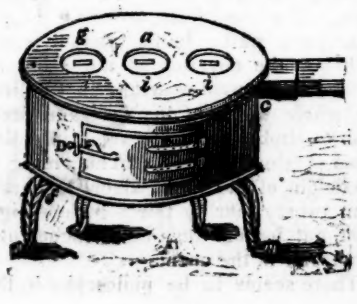
THE BRUGES STOVE, as improved by Messrs. Cottam and Hallen. By Mr. Edward Cottam.—I send you sketches (figs. 1, 2, 3,) of the Bruges stove, as manufactured by Cottam and Hallen, who have found it to answer fully the statement given by them of it in your Encyclopedia of Achitecture. It will do more with a given quantity of fuel than any other stove, having the means of stewing, boiling, broiling, roasting, and baking, at one and the same time, with a small quantity of coke or cinders from any other fire.

It is simple in form, and there is not the slightest difficulty in its use. The holes in the top may be arranged as is found most convenient for the situation in which the stove is to be placed, either in a line, as in the sketch, (fig. 1,) or in the form of a triangle. One thing is indispensable for the proper action of this stove, and that is a good draught. It must, therefore, have a separate flue.





In figs. 1, 2, 3, *a* is the top of the stove; *b* is the fire pot; *g* is the hole for feeding the fire pot; *f* is an ash drawer; *c* is the flue; D is the oven door; *h* is the oven; *e* is a space for the fire to pass to the flue *c*, and for heating the whole of the top plate, any part of which will produce sufficient heat for culinary purposes; *i i i* are lids, which may be taken off, and the battery of stew-pans, or boilers, will then be in contact with the flame. A grid-iron fits on any of these openings, which has the advantage of not smoking the article broiled, the draught being downwards.—[Loud. Arch. Mag.]



[From the London Mechanics' Magazine.]

Bernhardt's Patent Warming and Ventilating Process.

Several indistinct notices have appeared in the newspaper press, both domestic and foreign, during the last twelve months, (and some, it must be confessed, of rather a high-colored description,) of a new mode of warming and ventilating, stated to have been discovered by Mr. Bernhardt, a Saxon architect of considerable eminence, and exemplified by him with extraordinary success in a number of public buildings on the continent. As Mr. Bernhardt has taken out a patent in this country for his invention, and the time for his specification has now nearly expired, we shall soon be enabled to lay the whole particulars of his plan before our readers; but, in the mean while, the following extracts from a statement authenticated by the signature of Professor Schaeffer, of Dusseldorf, may be accepted as good evidence that Mr. Bernhardt has actually arrived at some results of more than ordinary importance—one of which, at least, is, even in this country of high mechanical invention, still a great desideratum, namely, *smoke without soot*. A late distinguished physician (Sir George Tuthill) has left it on record as his deliberate opinion, that the excessive quantity of carbonaceous matter sent forth into the atmosphere of London from its innu-

merable coal fires is the grand cause of its unhealthiness, as compared with places in its near vicinity.

"The Royal General Post-Office built, many years ago, a factory adjoining the post-house, for the repair of the mail-coaches, and since the building of the diligences and the increase of business, it has become a very large coach manufactory, in which above seventy workmen are at present daily employed. In a building at the back, arranged for the purpose, a forge for ten fires was put up and erected in the usual form. Smoke and soot penetrated into the dwellings of the neighbors, and rendered them uninhabitable and worth no rent. Complaints arose, and an expensive law-suit, which naturally terminated to the disadvantage of the Post-Office department. Experiments were then made to clarify the smoke and separate the soot. The Prussian consul in England—that land of invention—was desired to make inquiries whether any means were known to remedy the evil, but nothing could be done; and the most learned professional men doubted the possibility of an invention to answer the purpose, because it was believed that any attempt to separate the smoke from the soot could only be made at the expense of the draught.

"It became a point of consequence, to the Post-Office authorities here, to satisfy the neighbors at any price, and they endeavored to suppress the nuisance arising from the soot by removing the smithy into an intermediate building constructed for the purpose: the result of experiments by several artists, in inventing an apparatus by means of which it was hoped to banish the soot. A cistern of water was applied over the roof, which was intended, by being placed round the outlet for the smoke, to absorb its heavier parts; but the soot soon covered the water with an incrustation, and the finer particles of the soot escaped from the chimney and covered the gardens of the neighbors; besides the smoke spread itself throughout the smithies, so as to be dangerous and insupportable to the workmen at the fires. At that time the architect, Mr. Bernhardt, of Saxony, was in Berlin, and had been employed in the Royal Palaces; having devoted the whole of his life to the study of the deficiencies at present existing in the construction of fires, he was enabled to correct the similar faults in the General Post-office buildings, and his plans were crowned with the best success. Mr. Bernhardt discovered the means of forcing the draft of the smoke, and separating the soot from it. His plans were carried into execution. *In a short time, without any interruption to the business of the coach factory, the work was completed. The smoke ascends in a purified state through two cylinders of zinc to the roof, and the soot remains in the interior of the three story high building, concentrated in separate channels and chambers for it.*

"It is remarkable to observe the soot depositing itself in coarse particles, and afterwards becoming gradually finer as it ascends; to see the smoke rising through narrow wire nets. In the channels of the five chimneys a mass of 26¾ cubic feet of soot was found, after three months' purifying, and which had formerly been mostly conducted over the roof."

[From the London Mechanics' Magazine.]

ANTIS' IMPROVED CHIMNEYS.

SIR,—If the following paper, abridged from *Hazard's Register of Pennsylvania*, will tend at all to a discontinuance of the revolting practice of employing climbing boys in chimneys, I shall be happy to see it in your valuable and instructive publication.

Yours faithfully, A. Z.

To construct a chimney which would carry smoke has been found in practice one of the most precarious objects of mechanism. So little has the theory of smoke and draft been understood, that if ever a chimney was constructed to draw well, it was evidently a matter of accident; for no mechanic seemed to have any rule for constructing chimneys which would ensure a good one. We have been extremely gratified within a few days, by the inspection of a flue, and a set of fireplaces, constructed upon a plan entirely new in principle, invented by Mr. Henry Antis. We had not the pleasure of seeing Mr. Antis' model; but we saw the practical effect of his discovery, by a chimney and fireplaces in operation, in the house of Mr. Joseph Wallace, in Front street, the success of which is complete, and triumphantly sustains Mr. Antis' theory on the subject. His theory is, that cold atmospheric air tends to the centre of gravity, till it meets with some obstruction, which gives it another direction; that heated or magnified air is exactly vertical in motion; that hence, the flue to carry it off should be perfectly vertical, and in no place of smaller dimensions than at the bottom or first inlet. He maintains that it matters not how many inlets there be to it, provided the area of a cross section of the flue be equal to those of all the inlets combined; it may be greater, but must never be smaller. He therefore starts with a single flue from the cellar, regulating the size to cover the area of all the contemplated inlets from bottom to top. He carries it up all the way of the same size, in exact perpendicular direction; nor need the wall be more than the width of one brick in thickness. Wherever he wants a fireplace, he attaches jambs of the usual shape, leaving the common perpendicular wall of the flue for a back, throwing an arch across at the proper place in the usual form, covering it tight to the back wall. Immediately opposite or below the covering of the arch, he leaves a horizontal aperture in the flue, the whole width of the fireplace, from jamb to jamb, in size according to calculation previously made, and according to the height of the arch, which, for jambs from twenty-four to thirty inches high, must not be less than three inches perpendicular in the opening.

There seems to be philosophy in this theory; and practice, so far as tried, proves that there is truth in it; and we have no doubt the plan will, on a little further trial, be universally adopted by builders.

Beneath each grate, fitted in a fireplace, is an opening left, which descends obliquely into the flue. In this opening, on a level with the hearth, is a fire grate fixed, through which the ashes descend from the grate above. And such is the effect, that while a strong current of air is produced by the heat from the fire in the grate, through the horizontal aperture above, a moderate draught is also maintained in the oblique one below, which carries off all the dust; so that from a coal fire not a particle of dust escapes into the room. He also affixes a valve to each inlet, hung in such an ingenious manner, that the mere pulling of a small brass knob closes it entirely; and thus, in case the chimney should take fire, all the currents of air may be stopped in a moment, and the fire dies at once. Not a particle of soot can ever enter your room or your fireplace; for that, as well as the ashes, all descend to the bottom of the flue in the cellar, where an opening, with a sheet iron door, is constructed, from which these articles can be taken, and through which a sweep may enter and perform his duties, without disturbing the business, or amusements, or quiet, of any part of the family. Where necessary, he also carries up side flues in the jambs, by which air can be introduced, to regulate the temperature of your room, or the force of your draughts.

The advantages of this improvement are,

1st. Fewer materials are used, which cheapens the work.

2d. Less room is engrossed by dead brickwork.

3d. No annoyances from soot or ashes in your rooms—not even when a sweep ascends to clean out your flue.

4th. Power to regulate the temperature of your rooms, without opening doors or windows.

5th. Perfect security against smoke in every room in your house.

FIVE HUNDRED DOLLARS PREMIUM.—The Directors of the City Hotel in Boston offer the handsome premium of five hundred dollars for the best plan for erecting an extensive Hotel, &c. on a site of ground containing 21,000 feet, directly opposite the passenger depot of the Worcester Railroad, in the South Cove. The plan, accompanied with drawings, to be presented to the Treasurer by the 15th September next.

SOAP STONE PAINT.—We see by an advertisement in the Saco (Maine) Democrat, that an article has been discovered, called "The American Patent Soap Stone Paint," which is said to be superior to that of White Lead, and can be furnished at about half the price. It is said to have stood the test of five years.